

RADIO WORLD

Technology and news for radio decision makers

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FUTURE

AI and AM on the agenda

A preview of radio content at NAB Show New York.

Radio at the roots

The Grassroots Radio Conference holds its first in-person event in four years.

What makes a broadcast mic?

Members of the Pro Audio Manufacturers Alliance get definitional.

Wonder Rabbit retires

We talk with Martin Ashley about his multifaceted radio career.

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All-digital AM in 'Bama

In Birmingham, Crawford Broadcasting will give all-digital AM HD Radio a whirl



Paul McLane
Editor in Chief

C

rawford Broadcasting is giving all-digital HD Radio a try on an AM station in Alabama.

As this issue was being finalized, the Christian

broadcast company was getting ready to flip WYDE in Birmingham to the MA3 mode; only listeners with HD Radio receivers will be able to hear the AM signal after that, though the same content will be available on two

local FMs.

"We'd like to give all-digital AM a try and see how it performs," said Director of Engineering Cris Alexander. "The timing is right for us."

The FCC approved the use of all-digital AM in 2020. WYDE airs at 1260 kHz with a 5 kW signal by day and 41 Watts at night.

"That particular station is ideally situated for an all-digital move," said Cris, who also is technical editor of Radio World Engineering Extra.

"It's non-directional with no antenna bandwidth issues. It has a late-model transmitter that's already operating in the MA1 mode. And it's 100% duplicated on two separate FM signals in the market, one of which is a full-power FM and the other is a translator with a downtown Birmingham transmitter site." The station aired PSAs informing listeners of the pending change.

The station has a Nautel transmitter. Because the station has been airing the MA1 hybrid HD Radio mode for about 20 years, its air chain is already set up for the digital path, so no changes or modifications were necessary. "The conversion amounts to a couple of menu selections in the transmitter and exporter."

WYDE conducted brief overnight testing earlier. "We turned on MA3 in the experimental period to make sure that (a) we knew how to do it, (b) that the antenna didn't have any issues with it, and (c) to make sure it worked," Cris told me.

"We'll be looking to see how the digital coverage performs compared to the analog, of course. Also, since this is in the deep south where the weather is hostile, I'll want to see how well it rides through thunderstorms and convective activity. The MA1 lock will frequently drop out when there is a nearby lightning discharge or other noise burst. How robust

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will the all-digital signal be?"

This is Crawford's first foray into all-digital. "Our expectations are based totally on what we've heard and read from the Hubbard Frederick station," he said, referring to WWFD in Maryland. "It will be very interesting to see how our experience stacks up to those reports."

Todd Dixon is Crawford's chief engineer in Alabama.

Only two stations in the U.S. currently are using all-digital AM HD Radio.

The first to make the long-term switch was WWFD, Hubbard's station in Frederick, Md., near Washington, which did so in 2018 under an STA. It has been the subject of numerous articles and engineering conference presentations, and remains on the air in all-digital AM.

WIOE in Ft. Wayne, Ind., experimented for several

months in 2020 but then ended its digital transmissions.

Urban One's WTLC in Indianapolis sought to rebroadcast multicast channels of the AM test signal over FM translators, but the commission didn't allow that and the company withdrew its STA in 2021.

Cumulus station WFAS in White Plains, N.Y., went on with all-digital in 2021 and continues to operate in that mode.

But WMGG in Egypt Lake, Fla., which flipped to all-digital in early 2021, was subsequently sold by Neal Ardman to DRC Broadcasting, and Ardman tells Radio World the new owner dropped MA3.

And WSRO in Ashland, Mass., near Boston had gone all-digital in late 2021; but according to engineer Rob Landry, the station has been dark since the death of its owner Alex Langer earlier this year. 🕒



Digital Power Comments Due

If you plan to share a final thought with the FCC about its proposal to update FM HD Radio power level formulas, you have until Sept. 21. Reply comments are due Oct. 6.

The commission recently published an order and notice of proposed rulemaking to update the rules to give FM and LPFM applicants more flexibility to increase digital power levels. It plans to revise the methodology with which a digital FM or LPFM applicant calculates the maximum permissible digital power level. It would also allow asymmetric power operation on the digital sidebands.

The industry has had a lot of opportunity to comment on these ideas; but at the end of July the FCC laid out its specific plans, and now is asking for public feedback on them.

The National Association of Broadcasters thinks the changes will allow FM stations to increase digital power to improve coverage and service for listeners, including audiences inside buildings, and also enable broadcasters to target power increases to minimize the impact on other stations.

File using the FCC's Electronic Comment Filing System; refer to MB Docket No. 22-405.

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AI and AM are radio themes at NAB Show New York

For a second year the show will include a radio seminar for C-suite types

A session featuring engineers from New York-area AM radio stations is among the planned highlights for radio attendees at the NAB Show New York. The show will be held at the Jacob Javits Convention Center Oct. 24–26.

Appearing on the convention's Tech Stage, Engineers Andy Gladding of Salem Media Group and Dan Hirschl of Red Apple Media will discuss technical issues and decisions that AM broadcasters face, including antenna system optimization, use of metadata and the possibility of implementing all-digital operations. Their moderator is Jeff Schick of Sprite Media.

Another Tech Stage session will explore virtualization of radio stations and feature Alex Roman, CTO of MediaCo Holding.

"Software-based solutions for broadcast radio infrastructure are being developed at an ever-increasing pace, promising to greatly simplify operations and providing a host of benefits such as improved redundancy and enhanced remote control and monitoring capabilities," organizers say.

NAB is partnering with the New York chapter of the Society of Broadcast Engineers on those two sessions.

Writer
Paul
McLane
Editor in Chief

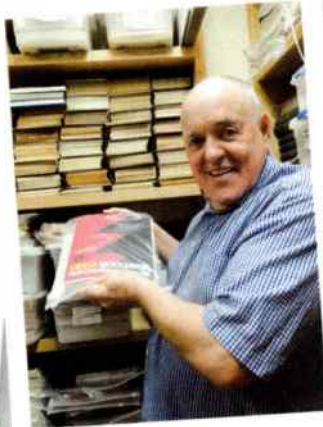
The convention will feature some other major radio components.

For the second year, radio C-suite and other leaders will be invited to an executive seminar. Called "Radio Insights," the Wednesday event will include a session on the business of radio with speakers like Justin Nielsen of Kagan, Collin Jones of Cumulus Media, Marie Tedesco of Beasley Broadcast Group and Rob Babin of Cox Media Group.

Another session will focus on the use of artificial intelligence in radio and feature Andrew Finlayson of SmithGeiger Group and Daniel Anstandig of Futuri, the company that makes RadioGPT.

Wednesday night brings the NAB Marconi Radio Awards, honoring stations and air personalities for excellence in radio. Sportscaster Rich Eisen will host, and record producer and radio host DJ Scratch will return as DJ. "NFL Today" host James Brown will receive NAB's Distinguished Service Award.

Diane Sutter, president/CEO of ShootingStar Broadcasting, will receive the National Radio Award from the NAB. Sutter is founder and dean of the NAB Leadership Foundation's Broadcast Leadership Training program, a



Above
At left, attendees visit a booth in 2022. At right is David Gleason, who will receive the first LABF Excellence in Broadcast Preservation Award. He runs the website www.worldradiohistory.com. This photo is from Radio World's profile of Gleason in 2012.

programming and engineering. He owned a station group in Ecuador, worked in management positions and consulting in Puerto Rico over 25 years and has worked for or consulted to Univision, Emmis, Metromedia and other owners in Latin America.

Other events at the show include an AI Creative Summit, a Visual Storytelling Conference and a Cybersecurity for Broadcasters Retreat.

Its exhibit floor will be open Oct. 25 and 26, starting at 10 a.m. on both days. The floor runs to 6 p.m. on Wednesday and 5 p.m. on Thursday.

The organizers expect around 270 exhibitors. Among names familiar to radio broadcasters are Broadcast Software International, Calrec Audio Ltd., Dalet, Digigram Digital, ENCO Systems, GatesAir, Lawo, Orban Labs, Rohde & Schwarz, Tieline, Wheatstone and Xperi.

In addition to the Tech Chat Stage, the exhibit area will include a new Photo+Video Lab and a Cine+Live Lab.

Last year's show in New York drew around 9,500 attendees.

Show-goers also will have access to the Audio Engineering Society show floor. The AES again plans to hold its show in the same building.

AES NY 2023 runs Oct. 25–27. The society is celebrating its 75th anniversary this year. Its demonstration rooms will be on Levels 1 and 2, behind the escalator down from the Level 2 concourse. Technical Program rooms with special events, workshops and papers are located in Hall 1E, as usual. 🎧

10-month MBA-style course that teaches people who want to be owners or senior executives the fundamentals of purchasing and running radio and TV stations. Some 400 broadcasters have graduated from the program; 59 went on to own stations and 10 serve on the NAB board.

"Diane exemplifies the commitment to service that lies at the heart of broadcasting," said NAB President/CEO Curtis LeGeyt in the announcement.

Preservation talk

On Thursday, a new Broadcast Content Summit will feature dual tracks for radio and TV people. It targets "content producers, programmers, talent, production and creative professionals."

Speaker details were being finalized at press time, but among them, consultant Buzz Knight will moderate a session about AI in radio. Ginny Morris of Hubbard Broadcasting will participate in a session about winning strategies for AM stations. Caroline Beasley and Justin Chase of Beasley Media Group will talk about connected cars and deployment of tools like DTS AutoStage.

Also Thursday, the Library of American Broadcasting Foundation and the NAB will co-host a session called "Your Content Is King: Preserve It!" The organizations are cooperating to raise awareness of the importance of documenting and preserving broadcast history.

Steven Portnoy, national correspondent with ABC Audio, will moderate this panel, which will explore the "why" and "how" of station content preservation. The preservation session will include others from ABC Radio, Hearst Television and the Texas Archive of the Moving Image.

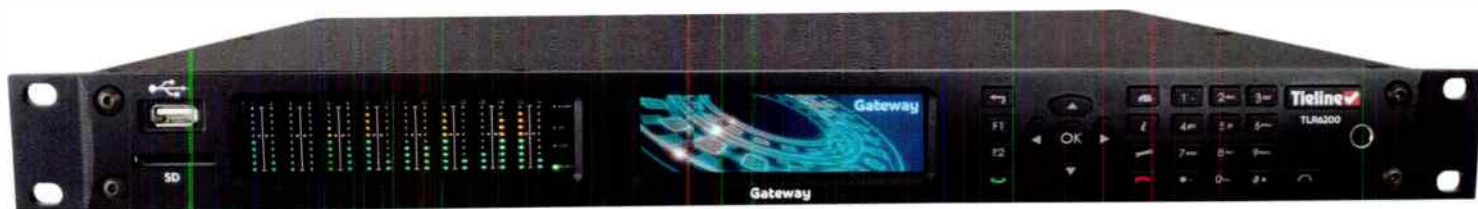
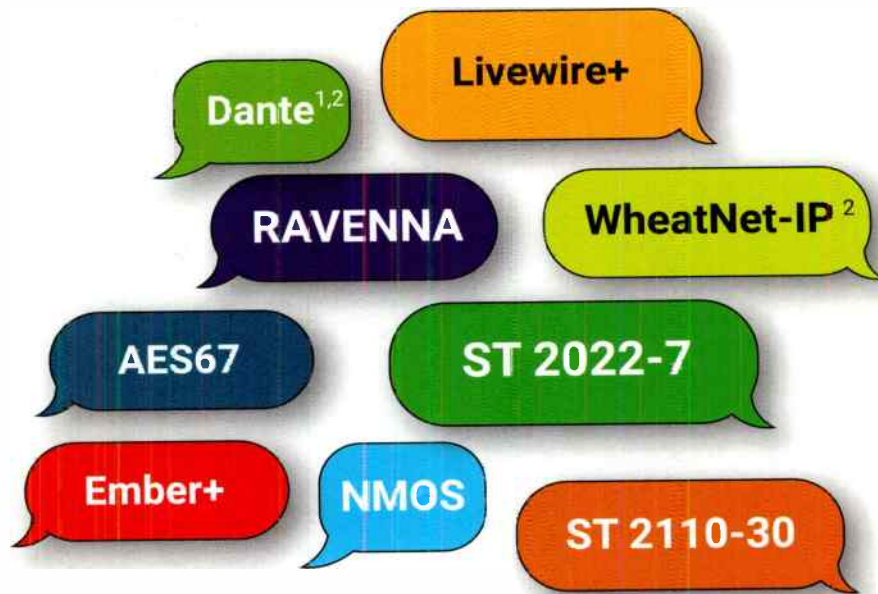
The first LABF Excellence in Broadcast Preservation Award will be presented to broadcasting archivist David Gleason in recognition of his dedication and commitment to preserving broadcast history. He runs the website www.worldradiohistory.com.

Gleason has worked for 64 years in ownership, management, sales,

Shown
Diane Sutter, below, will receive the National Radio Award. Attendees of last year's show are at right.



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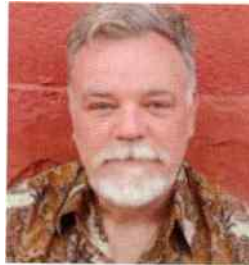
Grassroots Radio to meet in West Virginia

Amy Goodman keynotes the first in-person GRC since 2019

A Iso in October, community broadcasters will gather in Charleston, W.Va., for the first in-person Grassroots Radio Conference since 2019. It comes at an exciting time for community broadcasters, with the FCC about to open its first LPFM filing window since 2013.

The keynoter will be Amy Goodman from "Democracy Now!" Featured speakers include Dr. Rob Quicke, founder of Vinylthon and College Radio Day; LaGanzie Kale, founder/GM of KLEK(LP), a minority operated station in Jonesboro, Ark.; and Dr. MarkAlain Dery, infectious disease physician and public health practitioner who co-founded an LPFM in New Orleans dedicated to human rights and social justice.

Radio World recently spoke with Damon Cater from WTSQ(LP) in Charleston, which hosts this year's conference.



them and having the ability to host the conference has really put their camaraderie into perspective. We are planning a showcase of bands as our main social event.

RW What advice would you give people looking to launch an LPFM?

Cater: The GRC website lists companies that offer services to assist with the filing process, as well as information on engineering and design. Get in touch with these groups and networks to get professional guidance. Also, get the work done ASAP, so you can hit that filing window on Day 1.

Then, come to this conference and get your head

filled with as much information as possible on what to do next! You do not want to be figuring this stuff out on your own. Our folks at this conference will save you tons of time and money and headaches. We've all been there and we know where the pitfalls and mistakes will land you. That's what this conference is, a hive mind of LPFM and community radio geeks!

RW Tell us about how WTSQ got started.

Cater: I am one of the founding directors of the station and took over as board president in 2022. The original board was Chris Long, Kenny Lavender and me. Our meetings the first couple years were long talk sessions around a kitchen table drinking plenty of beers, taking good notes, building good plans and executing.

From the get-go, my role was organizational advice and support and encouragement, but Chris was the visionary one and really did the heavy lifting. He is presenting at the conference. I think his session is called "Broke AF Radio Station Builds!"

Now we have seven board members and dozens of kick-ass volunteers curating some of the best radio shows you'll ever hear. We've gone in eight years from catering to a very niche group of dedicated listeners to being a staple in the community. **RW**

RW What can attendees expect?

Damon Cater: A variety of educational and informative sessions, including engineering and radio station design on small budgets. Industry vendors will be on hand to demonstrate and share their wares and expertise. We'll have content-oriented sessions around such topics as news production, governance and management, basic tips for producing good shows and advice for DJs.

RW How are people feeling about a return to meeting in person versus virtual conferences?

Cater: Everyone is super excited. I think one of the biggest attractors to this event is just the social aspect and being with friends and fellow community radio enthusiasts. This really is more of a gathering of the minds than a typical "suit and tie" conference.

Many of these people have known each other and worked together for many, many years. Getting to know

Right
Damon Cater
and Amy
Goodman



More Info

The conference is Oct. 19-22 in Charleston, W.Va. See www.2023grassrootsradio-conference.com.

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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.



Gary Street refurbishes a Gates Biamote

This two-channel amplifier was intended for remotes for radio and TV

Top

The Gates Model M-5136 Remote Mixer, a relic from the 1950s.

Right

Note how Gary handled the unavailability of the "can-style" electrolytics.

Bottom Left

A view of the mixer with the top panel removed.

Gary D. Street has a Gates Model M-5136 remote mixer that originally was used by WNRG(AM) in Grundy, Va., in 1956 for its remote broadcasts.

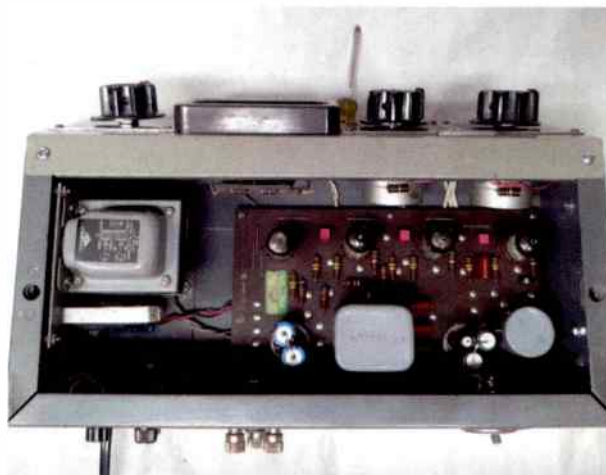
Back then WNRG was a 1 kW daytimer on 1250 kHz. Today it is a 5 kW daytimer on 940 kHz, and licensed to Peggy Sue Broadcasting Corp.

On the website <http://worldradiohistory.com> we find a Gates catalog from 1957 that calls this product a Biamote Two-Channel Remote Amplifier.

"Remote pickups for either radio or TV probably call for more 2-microphone installations than any other combination," the catalog stated. "The 'Biamote' fills this requirement with fine performance, lightweight rugged design, and a full complement of equipment including a 4-inch illuminated VU meter."

Gary refurbished the mixer. He had to manufacture the electrolytics, because the "can-type" electrolytics were no longer available. He used shielded cable for the low-level circuits. The cabinet was painted in the same colors that Gates Radio Co. used to use.

Gary was the chief engineer of WNRG(AM) and WMJD(FM) for 25 years, and during that period you may have spotted his byline in Radio World. A mixer schematic was hard to find, but Gary contacted the current owners



Send your tips

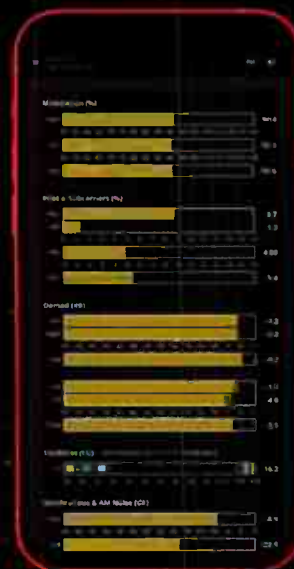
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of the station and found the schematic in one of its file cabinets.

Don't forget to tell us about your own discoveries of interesting old broadcast gear (and the memories they bring back). Email johnpbisset@gmail.com.

This stuff isn't for the birds

Archie Stulc is a broadcast engineer but he's also the son of farmers, and he has an interest in nature. He had to laugh when he saw our picture of what we called a giant bird's nest in an out-of-use transmission site.

Even with those open 4-inch holes in the wall he doesn't believe that this situation was created by a bird. Only a few kinds of birds create a covered nest, he says, and none of the birds he knows build at that size.

Further, Archie said that if this were a nest, there would be a lot more guano across the floor and on the equipment. Also, given the limited access, baby birds would have a problem flying to the outside, so there would be carcasses lying about.

His guess is that the mess was made by a muskrat or similar member of the rodent family. He wonders whether some of those cardboard boxes show signs of being chewed on.

Another perspective

But Richard Hyatt, CPBE, president of Maine Engineering Associates Inc., believes an osprey could fit through the bootless cable penetrations.

He shares this photo of an osprey nesting among cellular antennas. You can see bullet holes in the antenna at upper left, probably the result of some illicit target practice, the antenna being the target, though

Richard adds that ospreys enjoy protections under state and federal wildlife laws including the Migratory Bird Treaty Act.

Some years

back, a station found ospreys nesting on its digital STL tower. The birds were using the STL dipole as a "table" to feast on fish; in doing so they blocked the STL signal.

The station solved the problem by installing bird spikes from Bird-X (www.bird-x.com) to discourage roosting. Bird-X sells metal and plastic versions; to avoid issues with metal spikes, the station went with plastic.

Don't get bent out of shape!

You'd get your knickers in a knot too if you found your station's coaxial cable twisted like this.

The photo is courtesy Larry Wilkins, CPBE, director of engineering services for the Alabama Broadcasters Association. He took it during a station inspection.



Proper functioning of a coaxial cable requires its center conductor to remain, well, centered within the outer conductor to assure the best transfer of power. Kinks can displace the center conductor, causing standing waves or what is commonly called VSWR, for Voltage Standing Wave Ratio. The higher the reflected power, the greater the chance of damage to your transmitter from power going back into the transmitter.

So protect your exposed lines to reduce the chance of damage — from vandals, from ice falling off the tower or even from your own contractors. Years ago, I saw a crew of tower riggers using a looped piece of line as a "climbing peg"!

Through efforts like the ABA Engineering Academy, Larry Wilkins has done a yeoman's job of providing education for the next generation of broadcast engineers, and not just for folks in Alabama. His advocacy of lifelong learning is one reason he was the recipient of the Radio World Excellence in Engineering Award in 2017.

Learn about the academy at <https://al-ba.com/wp2/> under the Engineering tab. The best part of this multi-day training opportunity is that beyond room and meals, it's free. It's an excellent opportunity to bring an IT person or engineering assistant up to speed with radio essentials, and to refresh your own skills. 🎧

Top Right
Protect coaxial cable from twists and bends like this.

Bottom Left
An osprey roosting and nesting amidst cellular antennas.





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Layers Stream software can be added to any server in your rack room or regional data center for managing each stream locally along with related metadata and audio processing designed specifically for streaming.

- 
- Compatibility with standard CDN and streaming protocols, including Triton Digital as well as HLS, cecast, RTMP, and RTP streaming protocols
 - Standard BS.1770-compliant loudness control.
 - Be part of the WheatNet-IP family; a complete AoIP ecosystem of 200+ interconnected devices and elements.



www.wheatstone.com | Manufactured, shipped, and supported 24/7 from North Carolina, USA

A study in antenna patterns

Broadcast towers look particularly awesome at dusk, as this image sent by Radio World contributor Mark Persons reminds us. Gradations of sky color, rising from magenta to cerulean, provide a striking background for this three-tower AM array, while FM antenna bays and guy wire segments create an engaging series of lines and triangles in silhouette.

The site is owned by Hubbard Broadcasting. KLIZ(AM) "The Fan" is 1380 kHz with 5 kW day non-directional, using the unipole-fed center tower. Its 5 kW night signal uses all three towers.

The center tower features a 10-bay ERI antenna at the top for KLIZ(FM) "The Power Loon," 100 kW on 107.5 MHz. A three-bay ERI antenna below it serves KUAL(FM) "Cool 103.5" with 20 kW ERP. The city of license for all three is Brainerd, Minn.

The photo was taken in 2016. Mark adds that the two FM stations use circular but opposite polarization to minimize cross-modulation between the FM stations. Pass-reject filters are used in the building to further reduce mixing products.

Got a photo that captures the wonder and romance of radio? Email us at radioworld@futurenet.com.

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2023 Fall Product Planner



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“

Setup is simple and the user interface is very intuitive. The sonic quality and network stability makes the ViA perfectly suited for critical broadcasts

Dan Israel, Executive Producer & Co-host, Chiefs Radio Network

Dan Israel broadcasts to more than 100 affiliates with the ViA codec.

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2023 Fall Product Planner



Paul McLane
Editor in Chief

In 2023, product introductions by our industry's leading tech companies reflect the dynamically changing landscape of broadcast infrastructure.

Various past eras were characterized by innovations such as the introduction of transmitter remote controls, the debut of hard disks and personal computers in radio air chains, and the development of audio processors meant to win loudness wars.

I suspect we'll look back on the early 21st century and remember it for the cloud, SaaS and generational AI. You'll find products to navigate those trends. But familiar equipment types like transmitters, codecs and automation systems also continue to evolve, getting more powerful, efficient and user-friendly.

We invited manufacturers from around the world of radio to share their recent introductions or tell us about new ones. Their responses follow.

A version of this supplement also appeared in ebook form at radioworld.com/ebooks. As always please let me know how Radio World can serve you better. Email me at radioworld@futurenet.com.

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GV2 Transmitters Integrate HD Radio Functions

"The GV2 transmitter is the first in the industry to integrate all HD Radio components inside the transmitter," Nautel states.

"The GV2 supports HD Radio with Xperi Gen4 Importer, Exporter and Engine implementations for HD Radio encoding, station logo and Artist Experience, and is the first solution that locks FM and HD signals synchronously to eliminate HD FM blend drift. Omnia for Nautel covers all FM and HD Radio audio processing needs and provides Livewire AoIP inputs for all audio streams. No additional hardware is required."

Another innovation is an air-chain selector that allows the GV2 to select one of many air-chain inputs (FM and all HD) and change from one feed to another, no matter whether the feed originates from the studio, the cloud or the internal platform.

FM/HD1 time alignment is assured through the blend lock function without the need of GPS antenna connections. All components can optionally be activated to suit each station's specific needs.

The GV2 line features new power supplies, solid-state storage, a new interface card and dramatic increases in internal computational capacity. A new version of the Nautel Advanced User Interface based



on HTML5 enables the integration of new software components through virtualization technology.

Nautel says the transmitter is suitable for any broadcaster looking for a simpler way to deploy HD Radio or create an upgrade path for later.

Nautel staff are shown at the NAB Show celebrating a Best of Show Award from Radio World.

Info: www.nautel.com/gv2

4



ERI Expands Its RF Support Line

Electronics Research is out with a new series of motorized coaxial RF switches for VHF and UHF applications. It also unveiled a new motorized switch controller.

The four models include the 1-5/8-inch Model CS203C switch, the Model CS350C for 3-1/8-inch requirements, the 4-1/16-inch Model CS400C (shown at right) and the Model CS600C for 6-1/8-inch applications.



"These coaxial switches are broadband and suitable for DC to 608 MHz applications and do not need to be tuned to a specific channel," the company says.

"The coaxial port configuration is a coplanar design that minimizes the elbows required in most installation configurations. The control interface and interlock connections are made with CAT5 or CAT6 cables and RJ45 connectors."

In addition, ERI has updated the CS250C, CS350C, CS450C and CS650C VHF (DC to 274 MHz) coaxial switches and the Model CS252C, CS352 and CS452 UHF (any single 6, 7 or 8 MHz TV channel from 470 to 698 MHz) coaxial switches with new drive motor assemblies and control circuitry.

The EC130 motorized switch controller, shown above left, is designed to control one or two motorized switches and includes an SNMP interface.

"Adding an optional ERI Model VDM303 RF Power Detector, the EC130 will detect the presence of RF applied to the switch and prevent accidental switch activation while under power. The control interface and interlock connections are made with Cat-5 or Cat-6 cables with RJ45 connectors."

Info: eriinc.com

ENCO Incorporates AI Tools

ENCO is integrating ChatGPT-inspired solutions into its product family. It recently announced AITrack and ENCO-GPT, using the ChatGPT model to generate language responses from text-based queries added to automated TV and radio production work.

President Ken Frommert said in the announcement, "AI can be thoughtfully integrated into products like AITrack and ENCO-GPT that solve problems and create new opportunities for broadcasters today. It is quick to rollout, free of labor-intensive integrations and fully functional for automated broadcast production workflows."

AITrack integrates with ENCO's DAD automation to generate and insert voice tracks between songs. The company said that might include identifying the song and artist of the previous song, introducing upcoming songs, communicating station IDs, or providing localized news and weather. Users can adjust the length of each

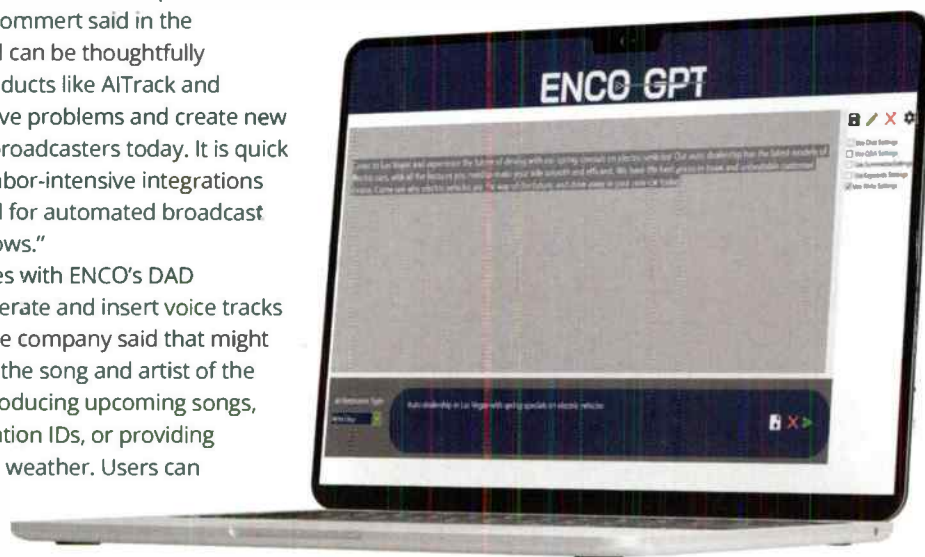
automated voice track, and AITrack uses Chat-GPT and synthetic voice engines to produce natural-sounding content between songs.

Meanwhile ENCO-GPT simplifies copy creation for TV and radio

broadcasts and program streams. It automatically creates ad copy on behalf of sponsors, and it can ingest text from the producer, for example with details on a special sale, with immediate turnaround of synthetic speech ready to air.

The tool can also be used to summarize news stories to fit a run time in a broadcast schedule; the application will condense a lengthy written article into a few sentences, or inject breaking news updates in live ad breaks.

Info: www.enco.com



Wheatstone Introduces Layers Streaming on AWS

In addition to on-prem servers, Wheatstone's new Layers Stream software can now run on Amazon Web Services.

Layers Stream features stream provisioning, audio processing and metadata software running on an on-prem server or public cloud with easy setup and control through a browser interface.

Included are audio processing designed for streaming applications and Lua transformation filters to convert metadata input from any automation system into any required output format, including Triton Digital, for transmission to a CDN server.

Layers is part of the WheatNet IP audio network environment that includes mixing, editing, scripting, virtualization, and intelligent AoIP. Wheatstone says these integrate to create "less work, more flow inside and outside the broadcast studio."

The WheatNet IP audio network has some 200 interconnected studio elements and software apps. In addition to Layers Stream, the Layers Software Suite features a Layers FM software module and Layers Mix software module for the on-prem server or regional data center, making it possible to replace racks of processors, desktops and mix engines and/or extend studio failover redundancy across multiple data centers.

Info: www.wheatstone.com



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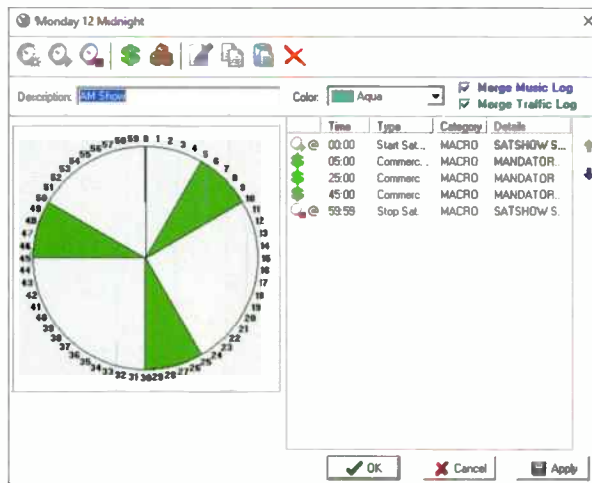
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|----------|---------|---------|---------|---------|---------|---------|
| Midnight | AM Show | AM Show | AM Show | AM Show | AM Show | AM Show |
| 1 am | AM Show | AM Show | AM Show | AM Show | AM Show | AM Show |
| 2 am | AM Show | AM Show | AM Show | AM Show | AM Show | AM Show |
| 3 am | AM Show | AM Show | AM Show | AM Show | AM Show | AM Show |
| 4 am | AM Show | AM Show | AM Show | AM Show | AM Show | AM Show |
| 5 am | AM Show | AM Show | AM Show | AM Show | AM Show | AM Show |
| 6 am | AM Show | AM Show | AM Show | AM Show | AM Show | AM Show |
| 7 am | AM Show | AM Show | AM Show | AM Show | AM Show | AM Show |
| 8 am | | | | | | |
| 9 am | | | | | | |
| 10 am | | | | | | |
| 11 am | | | | | | |
| Noon | | | | | | |
| 1 pm | PM Show | PM Show | PM Show | PM Show | PM Show | PM Show |
| 2 pm | PM Show | PM Show | PM Show | PM Show | PM Show | PM Show |
| 3 pm | PM Show | PM Show | PM Show | PM Show | PM Show | PM Show |
| 4 pm | PM Show | PM Show | PM Show | PM Show | PM Show | PM Show |
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| 8 pm | | | | | | |
| 9 pm | | | | | | |



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

Manage Satellite Feeds 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



WorldCast Expands Egreso AiO Series

WorldCast Systems has expanded its Egreso AiO FM transmitter family. Models are now available at 100, 300 and 600 Watts as well as 1 kW.

In addition to the existing backup feature on an offline SD card, the company has added an online audio backup, which supports Icecast and Shoutcast.

"This means broadcasters can reuse an existing radio broadcast channel to enable the redundancy of its audio program," it said. "They can play an audio file which is saved on the SD card, or they can recover an Icecast/Shoutcast stream and continue to broadcast the program live from a web radio source."

The transmitters occupy two rack units and deliver up to 76% efficiency. "When the patented SmartFM technology is activated, they

can further reduce their energy consumption by up to 40%."

The AiO series features an embedded APT IP Decoder. "It directly ingests audio over IP to the digital FM modulator, and is compatible with both SureStream and APTmpX." The transmitters also include a full RDS encoder and UECP capabilities.

Features include a new RF planar design, swappable power supply and a fan that can be removed from the front. "For remote configuration, monitoring and network management, there is a user-friendly web and mobile GUI, SNMP support and cloud monitoring with Kybio, another WorldCast software product."

Egreso transmitters carry a 10-year warranty.

Info: www.worldcastsystems.com

Big or small, hardware or software, there's a Telos VX phone system for you.

Since their introduction, Telos VX Broadcast VoIP Phone Systems have been the industry benchmark when it comes to call quality, features, and flexibility. The hardware-based Telos VX Enterprise is purpose-built for medium to large facilities, offering an expandable capacity of up to 120 channels. Telos VX Prime+ offers the same quality and features as VX Enterprise, but its fixed 8-channel configuration makes it ideal for smaller facilities with fewer studios. Telos VXs combines all the goodness of the VX platform and introduces the benefits of virtualization on-premises or in the cloud.

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Mike Alert Supports M!ka Control

Henry Engineering's Mike Alert facilitates controlling and interfacing the two-color tally lights used on M!ka microphone support arms made by Yellowtec.

"These popular mic arms have two tally lights that are visible to the user," Henry notes. "One light is white, the other is red. In many installations, the white light is used to indicate a 'ready' condition, e.g., the mic has been assigned to a console channel. The red light is used conventionally, to indicate 'on air' or that the mic is live."

Henry notes that the M!ka arm uses a five-conductor cable, often terminated to a five-pin male XLR connector. Three wires are used for mic audio, and the two remaining wires are used for both the white and red tally lights.

"The two LED tally lights are wired with opposing polarity, so that reversing the polarity of the control voltage determines which light,

white or red, will be on. This often causes interface headaches, since console Tally outputs don't provide any means of polarity reversal."

Mike Alert provides the power and control circuitry to interface the mic arm to the Tally outputs of any console, router or other equipment. Both the microphone audio and tally circuits are interfaced, with automatic polarity control to correctly operate the white and red tally indicators.

There are two independent GPI control inputs: one to activate the White tally LEDs and another one to activate the Red LEDs.

Henry says Mike Alert is compatible with any console or equipment that provides a GPI contact closure, open collector, logic or DC voltage for Tally light control. Each unit can control two mic arms. Price: \$325.

Info: www.henryeng.com

10



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, shown at right, 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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- FOOTPRINT



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MAX License

Up to 4 consoles per Power Core

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Digital Alert Systems Develops a HALO

HALO software helps broadcasters understand the operational readiness of their EAS infrastructure, centralize its management and aggregate FCC compliance logs.

Digital Alert Systems notes that many station groups have dozens, if not hundreds, of encoders and decoders across regions and time zones. "An ever-decreasing number of people are looking after that essential equipment to ensure it is operating correctly. FCC fines for inoperable equipment can be substantial and come right off the bottom line."

HALO stands for Homogenous Alert Overseer. The software tool supports hybrid virtualization for stations and MPVD operators deploying DASDEC/One-Net devices at the network's edge to capture EAS/CAP alerts.

"HALO communicates over a network with properly configured EAS/CAP systems deployed throughout a customer's operational

areas. The EAS devices communicate a Healthbeat to the central HALO system, comprising detailed information on crucial configuration values. If these parameters are outside the set values, HALO displays warnings on the user screen to highlight potential issues before they become a real problem."

HALO simplifies compliance with the FCC's Electronic Test Reporting System. Test result information across all configured stations is available within minutes of receiving the test. "No more having to contact each station asking for reports or sending logs to be culled and summarized. HALO can quickly output a text, Excel or PDF file and send the information to a printer."

Access can be shared among engineers, technicians and management so compliance teams can see what alerts are being received within each local community.

Info: www.digitalalertsystems.com



SpotOn Applies AI to Spot Creation

Futuri Media made ripples and waves with its rollout of RadioGPT. Now it is promoting an audio production system that generates commercials and spec spots using artificial intelligence.

"SpotOn optimizes AI to instantly generate effective, standout creative to vastly improve operational efficiencies and help close more business," it said in the press release.

It can also generate spot tags and station liners.

Users select a voiceover talent from a library of clones or synthetic voices in dozens of languages. SpotOn includes a music library to help users find the right tone and tempo.

"Each spot is meticulously structured and scripted to hit the right points and make a brand's message resonate." The company says the spots can run as-is or be used as a "first draft" for radio producers to work from. Futuri says account execs can also use the tool to create spec spots while sitting with the client.

Info and audio samples: futurimedia.com/SpotOn/



Altus Moves the Console Out of the Studio

Telos Alliance says that its new Axia Altus virtual mixing console brings the power and features of a traditional surface to any computer, tablet or smartphone.

"Full-function mixing — including eight virtual auxiliary mixers and integration with Telos VX broadcast phone systems — allows distributed and remote workforces to collaborate on recorded or live programs, including contribution audio and monitoring through WebRTC."

Altus is suitable for any situation where fast deployment is necessary, such as setting up a temporary studio, building a low-cost disaster recovery center or quickly launching a remote broadcast.

Altus encompasses the benefits of virtualization including scalability, security and flexibility, whether installed on-premises on standard COTS (Commercial Off the Shelf) hardware or cloud-hosted.

Altus received a Radio World "Best of Show" Award at the spring NAB Show.

Info: www.telosalliance.com



Introducing

GV²

Enhanced GV Series Transmitters

Digital/Analog 3.5 kW – 80 kW FM

- New IQ interface card
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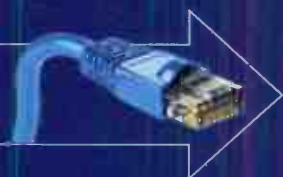
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- Software-based air chain support
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- Air Chain Selector



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AUDIO IN



RF Out



Everything Else Is Inside

HD Radio
Digital AM & FM





Inovonics Expands SiteStreamer Family

Inovonics is growing its line of problem-solvers for remote monitoring of off-air transmissions.

"How do you know what you don't know?" the company asks. So the SiteStreamer family of remote monitor-receivers is intended for radio broadcasters who want to know if their off-air transmissions are broadcasting correctly.

"Inovonics SiteStreamers are web-enabled receivers installed at the transmitter site for remote signal monitoring, allowing broadcasters to remotely tune in and listen to a live off-air stream," it says. "Alarms and notifications can be set up for email and SMS advisories."

They are available in many flavors such as FM, AM and HD Radio.

Now Inovonics has added the Model 563 for digital DAB+ transmissions. "The Sofia is like a super SiteStreamer with more horsepower and features for critical monitoring situations," it says.

Features include display of graphics and related text data on a web interface. Output levels are adjustable for LR Analog, AES3-digital and Dante/AES67 AoIP. Up to 10 listeners at once can listen on internet streams. Multiple transmissions can be monitored sequentially with StationRotation. Alarms and notifications can be sent via email or SMS messaging.

Info: www.inovonicsbroadcast.com

14

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.

Info: rcsworks.com

Arrakis Adds Bluetooth to MARC

Arrakis was the first to introduce a Bluetooth module, doing so 10 years ago in its ARC Series broadcast radio consoles. Now it offers one for the MARC series.

The MARC is modular, allowing a user to configure the board as needed. The six available modules are Microphone, with A/B inputs; Stereo Line, with A/B inputs; USB, to connect to a Windows or Mac PC; Phone, of which up to two can be used; Studio Monitor, to talk between the control room and another studio; and the new Bluetooth module.

Bluetooth-enabled consoles can be paired to any Bluetooth-enabled device such as a cell phone, audio player or recorder editor, Arrakis says. "Just pair your cell phone to the console, and answer your incoming calls with the built-in 'Call' button on the board. You may then end the call with the 'Drop' button, just like a standard Bluetooth phone hybrid. The



caller receives the console bus mix ('minus' the caller audio) so there is no feedback."

You can take calls on the audition bus, where you can record the call for later playback, or send it to the program out to play over the air.

The module can be retrofitted into existing boards as well.

Info: www.arrakis-systems.com

Arcadia Provides Scalable Remote Site Access

Engineers and managers can monitor and control all their sites from a NOC or from the field over a single secure web link using the Burk Arcadia system.

"Authorized users simply launch a browser window on a smartphone, tablet or PC to confirm the status of their entire network and to initiate commands to keep their stations on the air," Burk says.

Arcadia provides summary data at national, regional or market levels, with the ability to drill down for detailed status and control of individual sites.

Burk offers the example of Relevant Radio, which uses Arcadia to bring all of its remote control into one place and has been growing its network operations center. Andy Disterhaft, senior director of station engineering/operations, is shown with a rack that contains a Burk ARC Plus Touch remote control system. He's holding his smartphone



displaying an Arcadia Matrix View.

Relevant Radio is a Catholic network of more than 200 owned-and-operated and affiliate stations in the United States, plus a worldwide streaming presence and mobile app.

"Each user gets their own username and password to access the system. This allows each user or group to be given different privileges," Disterhaft said. "If a staffing change occurs, it's as simple as changing one user on the Arcadia server, rather than potentially having to change every site's username and password."

The mobile interface lets Relevant Radio create critical views for groups of sites or individual stations. These present the most important monitoring and control channels for each site in a graphical format for use on phones and tablets.

"Another great benefit is using the Arcadia NOC software to connect our Network Operations Center to all sites through a single server. ... With the

Arcadia NOC software, all those connections are sent on a single data stream from the Arcadia server, putting the load on the server to do most of the work."

Info: www.burk.com



A new scheduler allows complex program and content distribution tasks to be managed seamlessly and in an intuitive and straightforward manner.

"AudioVault Anywhere delivers powerful control and simplified operations at your fingertips all from any connected device wherever and whenever you need it," BE says. It is suitable for remote voice tracking, playlist and program management, file playback, remote broadcast, sports and remote talent.

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

a shared offsite platform across your cluster, group or around the globe using the proven and reliable Azure solutions."

AV11 provides integration with Adobe Audition digital audio editing software. Users can streamline production with powerful metadata tools to load audio into AudioVault directly from Audition, eliminating tedious data entry.

And enhanced AVWatchDog provides an extra set of eyes and ears to monitor and track a range of schedules and playlists days in advance to ensure that everything is in place. If something is missing, it will notify you so you can make corrective action.

Info: www.eleosgroup.com

AudioVault 11 From BE Is Now Shipping

Broadcast Electronics recently rolled out AudioVault 11, its next-generation media management and playout solution.

"AudioVault 11 allows broadcasters to seamlessly create, manage and deliver programming with nearly 100 new capabilities including advanced scheduling, cloud-based shared storage, and simplified remote access and operation," the company states.

PayNow Helps Broadcasters Get Paid Faster

The PayNow platform from Marketron accelerates and streamlines electronic payments.

Marketron says PayNow integrates with traffic systems, automates processes, uses flat fees for processing charges and is convenient for advertisers.

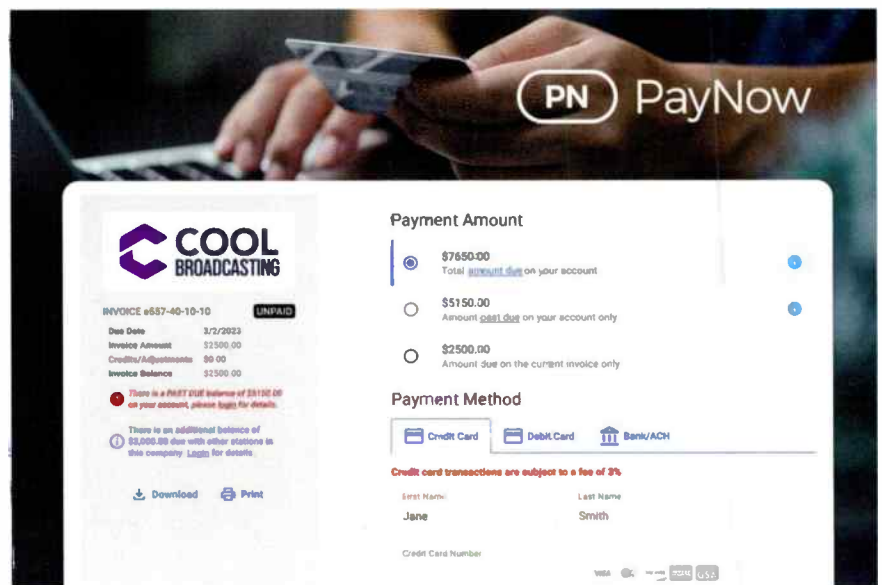
"PayNow has added guest checkout features, allowing advertisers to make payments quickly and securely on invoices and statements in just a few clicks."

The platform can modernize and optimize electronic payments and reduce costs associated with printing and mailing paper invoices. This can reduce days outstanding decrease by up to 32 days.

Marketron also highlights its NXT system as a scalable solution for selling more integrated advertising. "NXT's intuitive, self-serve platform has all the tools your team needs to build winning campaign

proposals, execute orders, generate invoices and deliver performance that drives renewals."

Info: www.marketron.com



It's like being asked which kid is your favorite.

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TelosAlliance.com/OmniaProcessing

World Radio History

New Tieline Codecs Deliver MPX STLs

Tieline's new MPX I and MPX II codecs deliver composite FM multiplex codec solutions for real-time network distribution of FM-MPX or MicroMPX (μ MPX) signals to transmitter sites.

"The MPX I is ideal for transmitting a composite STL signal from a single station with return monitoring, whereas the Tieline MPX II can transport two discrete composite FM-MPX signals from the studio to transmitters with return monitoring," the company says.

Both units support analog MPX on BNC, MPX over AES192, and multipoint signal distribution, to deliver a range of flexible composite encoder and decoder solutions for various applications.

The MPX I and MPX II support sending the full uncompressed FM signal, or high-quality compressed μ MPX at much lower bit-rates. An optional satellite tuner card with MPEG-TS and MPE support can receive DVB-S or DVB-S2 signals.

Charlie Gawley, VP Sales APAC & EMEA, said, "By supporting both analog and digital composite MPX signals, broadcasters can transition from analog to digital composite MPX signals over time and maximize the value of their MPX investment."



Sending transmission-ready FM composite signals from the studio allows broadcasters to maintain audio processing and RDS data insertion at the studio. This reduces capital and operational costs by eliminating processing equipment from transmitter sites, which reduces on-site power consumption, wiring and site visits.

Composite MPX over IP signals can be replicated and distributed using multicast and multi-unicast technologies and take advantage of redundancy features like redundant streaming, RIST, FEC and automated SD card file failover.

Info: tieline.com

18

M!ka Hush Enables Intuitive On-Air Signaling

New from Yellowtec is hush, a plug-and-play solution for the company's m!ka family.

"Hush on-air controls now provide comfortable ways to handle your signaling," the company says. "They are designed to fit Yellowtec's famous m!ka mic arms with on-air indicator.

There is no need for self-made solutions or compromises anymore."

Two versions are available. Hush offers control over a m!ka mic arm's LED signaling, while the hush+

version adds high-end mic preamp settings.

"Hush+ provides you with advanced mic preamp and control functions for your mic signal. A lot of microphones have a low sensitivity and need a preamp in front of their mixer. Hush+ allows you to set up to incredible 75 dB gain as high-end preamp. With -129dB input referred noise, it stands out."

A hush device can be controlled via Yellowtec's hush Remote, GPIs, USB-HID, USB-MIDI or external MIDI-interface.

Via GPIs, any standard open collector output of a mixer can be connected. Via MIDI, hush gives you control over signaling via DAW. "For example, directly turn on your on-air indicator whenever you press record within your DAW software." For USB-HID mode, libraries are available to support writing your own software tools.

M!ka and Yellowtec's litt signaling device can both be controlled via GPO.

Info: www.yellowtec.com



Radio.Cloud Provides “Voicetrack.ai”

“Our idea is to give stations a feature that supports hosts by using applied AI driven voice tracking to increase station efficiency and capabilities.”

So says Radio.Cloud, describing the Voicetrack.ai platform, which is part of Radio.Cloud software.

It envisions this tool as an enhancer for hosts that will make stations more flexible. It can continue to push local content even when no people are physically at the station or on air.

“Stations can now fill dayparts that previously just played music and sweepers. For example, in nights and overnights, hosts and program directors can work ahead and turn what some see as a lost daypart into appointment listening with custom local content.”

With every voice track, stations can select an AI-generated voice along with a duration and daypart for the talk break. Then hosts select content topics like frontsell/backsell, station ID, weather, etc.

“Rather than simply asking ChatGPT to create a script, we’ve trained the technology with thousands of challenges and complex prompts. Because of this prompt engineering, ChatGPT perfectly generates a voice track for your specific station.”



In seconds an editable script appears at the bottom of the screen. After customizing it, you can preview the AI voice track. “You even have the ability to set the voice track on the ramp/intro of the upcoming song, something Radio.Cloud does automatically whether it’s an AI voice track or a pre-produced human voice track.”

In July 2023, the technology helped Antenne Deutschland launch Europe’s first 24/7 AI-driven radio station called Absolut Radio AI.

Info: www.radio.cloud

The logo for ERI, consisting of the letters 'ERI' in a bold, italicized, sans-serif font. A small registered trademark symbol (®) is located to the upper right of the 'I'. The logo is set against a dark background with a slight glow effect.

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AEQ Launches New AoIP Codecs

Venus 4 from AEQ is a dual full-duplex stereo IP audio codec with local analog, digital and AoIP Dante connectivity.

"This new dual stationary audio codec for point-to-point links stands out for having IP connectivity and two simultaneous bidirectional stereo transmissions with different formats and qualities," the company says.

"It also features SIP protocol and EBU N/ACIP standard, as well as Opus algorithms, configuration support and remote control tools."

Venus 4 is available in two hardware versions, one with a front control and a basic version with network and communications status indicators. Both have balanced analog I/O on XLR connectors and dedicated AES/EBU digital I/O connectors, triple network port, dual RS-232 auxiliary data link and redundant power supply. The codecs are available with 48 volt DC power supplies and optional Dante/AES-67 IP

local audio inputs and outputs.

The codecs can be controlled via the Phoenix Control app; there's a user-friendly graphical window for configuration and another for operation that allows AEQ to work with it remotely.

Also new is Smartalk, a service that generates a link to a website on the user's PC or smartphone, to download an Opus a codec from the cloud. Through a SIP server, it then automatically connects to a studio's AEQ codec.

"This app allows a simple connection between talents, from their PC, tablet or mobile phone, without the need for an audio codec. No need to install any application or enter a user name and password, just a direct web link." Audio is sent bidirectionally in high-quality, low-delay stereo format with Opus encoding. It's available by subscription.

Info: aeqbroadcast.com

20

Angry Audio Gets SMOOTH

Angry Audio is shipping the latest addition to its Chameleon line of audio processors, the SMOOTH microphone processor.

"Unique in its approach, SMOOTH is designed specifically and exclusively for the Shure SM Series microphones," the company says.

"Previous microphone processors required some effort to get them matched to the mic. The SMOOTH is dialed in right out of the box to sound amazing with some of the most popular microphones on the market."

The company notes that the SM Series dynamic microphone has millions of fans. "Many of them benefit from a little compression, maybe some gating to quiet background noise, a little EQ, even some sibilance control. SMOOTH delivers with a minimum of tweaking so they can concentrate on the message."

The processor uses advanced DSP and programming by Cornelius Gould. Its precision mic preamp is clean and provides plenty of gain. Both analog and AES digital outputs appear on the back panel. Logic functions are provided to remotely turn the mic On or Off, or act as



a Cough Button. SMOOTH can be mounted on the desk or in a rack. MSRP is \$889.

What about other mics? "We expect to hear it a lot," said the company's Mike Uhl. "We have focused on the Shure product because it is so popular these days. And we are already working on a different product for the Electro-Voice Series microphones that we call Rebel. This will be a limited line of processors for professionals."

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



XL 3000 Expands Bext Transmitter Offerings

Bext Corp. expanded its transmitter line recently by adding the compact XL 3000 FM Transmitter.

"Following the resounding success of its bigger brother — the XL 6000 with 6 kW of power in a very compact size — Bext added the smaller XL 3000 with 3.3 kW of power also in a very compact lightweight package, only 3 rack units tall and 18 inches deep," the company states.

Like other XL Series transmitters, the XL 3000 can be powered by three- or single-phase AC power.

"Special attention was given to achieving highest possible efficiency, which will not only lower electricity bills, but by having minimal energy lost into heat it allows the transmitter to operate with low-speed fans and extends the life of the internal electronics, which are not

subjected to the typical high heat produced by other less efficient brands of transmitters."

Protections against high reflected power and other excessive environmental issues are built in.

The XL 3000 has a front-panel USB connection that allows the user to view or download files including the user manual and factory final test report. This function is active even when the transmitter is powered down or not connected to a power line.

A color touch screen gives access to most functions. The transmitter can be remote controlled via web page, SNMP and old-school traditional contact connections. Options include audio over IP, dynamic RDS, SNMP2 and AES-EBU digital audio input.

Info: bext.com



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A New Generation of Orban Broadcast Audio Processors

Orban is known for its 50 years in audio processing. In 2023 a new generation of Orban audio processors is coming to the market.

The Optimod 5950 is the first to be available. "It has a compact 1 RU design and offers a powerful package of features including Orban's breakthrough MX Peak Limiter technology," the company states.

"Equipped with a high-resolution touch display and the ability to be controlled remotely via any HTML5 web browser, the Optimod 5950 combines user-friendly operation with the highest quality audio processing for FM and DAB+/HD Radio broadcasts."

Analog, AES3, composite and digital MPX as well as AES67/SMPTE-ST2110 inputs and outputs allow integration into any studio/

transmitter environment. An optional Orban μ MPX interface can be used for a cost-effective transmission of digital MPX signals over IP.

Features include Subharmonic Synthesizer for a punchy bass and the Multipath Mitigator "for a perfect stereo-to-mono downmix."

Following the Optimod 5950, the Optimod 5750 will be released, replacing the Optimod 5700i. It provides audio processing for analog FM broadcasts and for DAB+, HD Radio and streaming.

"Like its big brother, Optimod 5750 includes analog, AES3, composite and digital MPX and AES67/SMPTE-ST2110 inputs and outputs."

And the Optimod Trio completes the product line for 2023. It can be configured as AM audio processor, as FM audio processor or as an HD Radio, DAB+ and streaming audio processor. In the HD Mode, Optimod Trio is also suitable for TV audio processing.

New Optimod models come with an integrated RDS/RBDS generator supporting dynamic PS scrolling and IP access and are equipped with monitored dual power supplies.

Info: www.orban.com/

IQ vPilot Is an Automated Studio Driven by AI



Vislink's IQ vPilot is an automated, AI-based video production system that does not require camera people or an onsite director.

The company says it "empowers any individual or organization to launch their own news, TV or, increasingly popular, radio station or podcast, delivering professional-grade content production tools with unparalleled cost-efficiency and flexibility."

The IQ vPilot's AI capabilities direct cameras and switch shots based on the speaker and their importance within a discussion. A user-friendly vPanel allows presenters to integrate dynamic graphics, ticker tapes, overlays and video snippets easily.

"This capacity for visual content integration allows radio programs and podcasts to transition into the video realm, creating a multi-modal, engaging viewer experience."

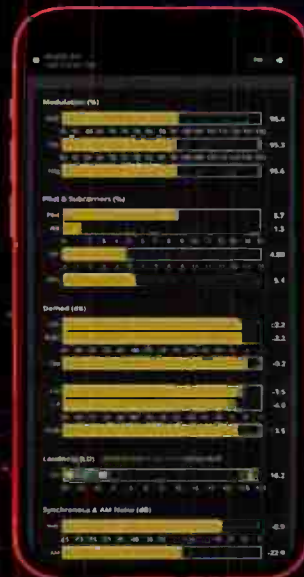
Other potential uses include podcasting; budget-sensitive news operations; TV communications; and places of worship looking to broadcast their services.

Info: www.vislink.com

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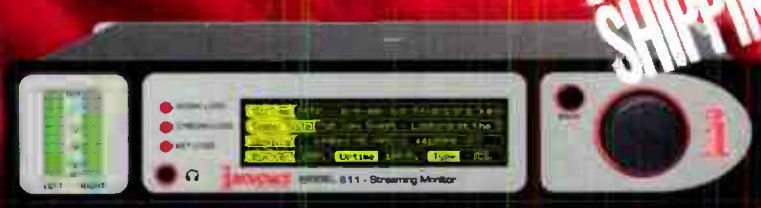
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World Radio History

A Mobile Interface for Podcasting and Streaming



The CEntrance PortCaster is a mobile audio interface suitable for radio reporters.

"With this handheld portable mixer you can host a live show, adding music and guests, or record an interview with the optional SD recorder," the company says.

"With warm analog sound and an eight-hour rechargeable battery, PortCaster makes you sound clear and lets you broadcast from anywhere."

Its Jasmine mic preamps feature 65 dB of low-noise gain and support professional mics. Features include analog limiters and a mono blend for live streaming. Mix-minus allows the traveling radio reporter to add call-in guests to the program. Mix-minus prevents annoying audio feedback from traveling back to the caller through the phone line.

"Just connect your phone, and dial up your guest. Or use it as a phone patch during your VO session."

Info: centrance.com/portcaster



24

Sprite Media Introduces the Sprite Presenter

"More and more broadcast facilities are being built with television monitors on the walls, but what do you see on these screens?" asks Sprite Media. "A logo? The local cable news station? Nothing at all?"

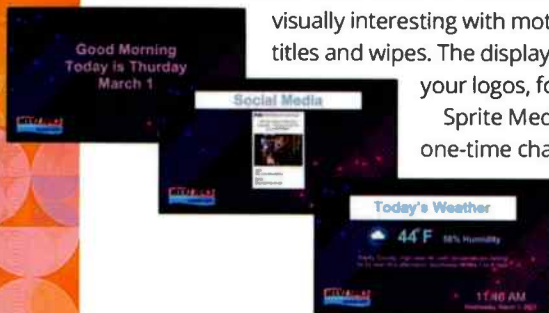
The company says Sprite Presenter can help: "It's not just a logo and a clock, it's your front line of connection."

Sprite Presenter is a visual presentation that greets guests throughout the day with a time-sensitive welcome, gives the latest weather and provides information feeds, news and social media highlights. You can add your own local information or wish a happy birthday or congratulate valued team members or guests.

Information comes from your news sources, social media sites, weather forecast or other available content. The presentation is made visually interesting with motion backgrounds, motion titles and wipes. The display can be customized with your logos, fonts and colors.

Sprite Media Presenter is sold for a one-time charge; there are no licensing or data fees.

Info: www.Sprite-Media.com



Summit Launches EAS Compliance Service

SummitGO is a new line offered by Summit Technology Group to assist radio and television broadcasters in maintaining legal compliance with the ever-evolving EAS requirements.

The product is available as a subscription, and the hardware gateway allows Summit personnel to remotely monitor all aspects of a station's EAS equipment.

Technicians maintain weekly logs, conduct quarterly inspections and provide proactive support by contacting the client in the event of a discrepancy. Required ETRS forms 1, 2 and 3 are filed on behalf of the station and firmware updates are installed per the manufacturer specifications.

Customers can manage their logs and access all required documents via SummitGO's secure online portal. SummitGO starts at \$119 per month for the first station and \$45 per month for additional stations in a cluster.

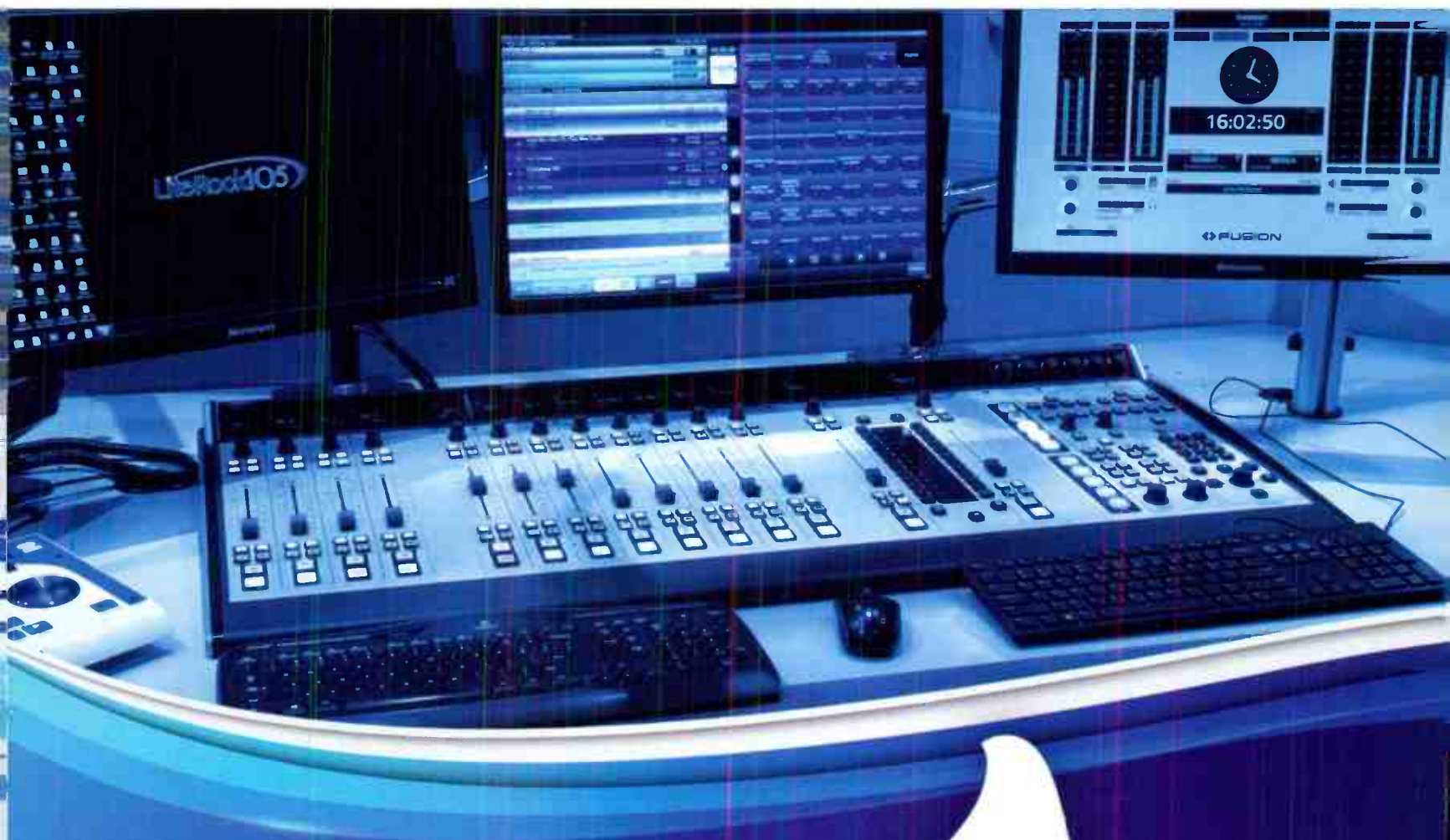
Info: www.summittechgroup.com



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ADB-FM₃ Is a Half-Wave Dipole FM Antenna

Jampro says the AlanDick ADB-FM3 Half-Wave Dipole is a rugged, high-performance FM broadcast antenna designed and built for years of trouble-free service.

"It can simplify problems and improve your service by providing various coverage solutions, including omnidirectional and directional patterns," the company states."

Galvanized steel brackets and hardware prevent corrosion, ensuring reliable service. The antenna elements are hot-dipped galvanized

(HDG) steel with a brass inner conductor. The manufacturer offers options for stainless steel or marine brass construction, which increases reliability and corrosion resistance.

The broadband antenna services 87.5 to 108 MHz and is available with vertical or horizontal polarization. Suitable for multiplexing frequencies, the design also supports up to 10 kW per dipole.

Info: jampro.com

GatesAir's Expands Flexiva GX FM Transmitter Series

GatesAir has expanded its Flexiva GX analog FM transmitter line, highlighting its power-to-size ratio for power levels up to 10 kW.

"Using the latest LDMOS technology, GatesAir has packed exceptional power density into a compact chassis, providing broadcasters with powerful FM solutions that deliver a remarkable overall efficiency rating up to 76 percent."

Originally introduced in 5 kW and 10 kW versions, GatesAir has expanded the range with models for 50 W, 1 kW and 3.5 kW power requirements. The latter receives its debut at IBC 2023.

The company cites Flexiva GX's design enhanced by third-generation PowerSmart high-efficiency transmitter architecture.

"Broadcasters seeking to refresh existing FM infrastructure for large regional and national networks represent a key customer



base. Flexiva GX transmitters support N+1 configurations, enabling large national network operators to build very flexible and consolidated transmission sites that meet the most stringent uptime requirements."

The Flexiva GX Series features modular, redundant transmitter designs with hot-swappable power supplies. The transmitters provide auto-switching inputs, with dual AES (including AES192), dual composite and analog left/right audio inputs.

Options include a GPS receiver to support SFN functionality, and GatesAir's new Intraplex IP Link 100e module. The latter integrates within Flexiva GX transmitters, enabling direct receipt of contributed FM content instead of requiring an external codec.

Info: www.gatesair.com



Major-market to kitchen table.

Multi-station, major-market clusters where networked audio has been a given for years. Small-market, locally-owned stations discovering AoIP for the first time. Production and on-air studios where a physical surface is a must. A remote workforce where a “studio” doesn’t exist.

There is no “one size fits all” in the console world. But the one thing all broadcasters have in common is the drive to produce the most creative and compelling content possible for their listeners. Our job is to provide them with the tools they need, wherever they are on their technical journey.

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Is it a surface, or is it a mix engine? Yes.



BROADCAST WITHOUT LIMITS

TelosAlliance.com/AxiaConsoles

World Radio History



Reconfigure a Cat-5 With RAM

"Have you ever needed to change the wiring configuration of a Cat-5 cable?" asks RAM Systems. "Now you can with the RJ45F/Config."

This box provides female RJ45 connectors for input and output and two eight-pin terminal blocks for configuration modification. The cable shield is carried through.

This problem-solver in a blue plastic enclosure is 6 inches wide, 2 inches deep and 1 inch high.

RAM Systems also offers custom furniture, sound absorption products, master clocks and timers, speaker mounts, mic boom tallies and a number of other solutions.

Info: www.ram68.com

Ultimate Stand Supports Broadcast Mics

Ultimate Support Systems has released the BCM-300 Deluxe Broadcast Mic Stand, which is intended to be camera-friendly.

"From conference calls and podcasts to livestreams and radio shows, the BCM-300 fits the needs of a large variety of production value-oriented users," said Ultimate Support in a release.

With a clamp-based mounting system, the stand can be affixed to any flat surface. Additionally, with a max height of 37-inches and a three-point adjustment system, Ultimate Systems says the BCM-300 is highly adaptable.

"The extended-length 3.75-inch drop mechanism also provides more fluid rotation for side-connecting mics such as the Shure SM7B and other similarly designed mic models."

Built-in cable management clips and a threading knob at the central hinge point of the stand help keep the XLR cable out of sight. Additionally, with the closed body design of the stand, Ultimate Systems says the internal springs are noiseless and invisible.

Info: www.ultimatesupport.com/



WinCam Is an HD Multimedia Video Control Room

The winCam system from winMedia provides an automatic video camera management and production solution suitable for visual radio, social media and other applications.

"It's an all-in-one full HD multimedia video control room that features a powerful video engine, controls the most commonly used

PTZ cameras, and is able to integrate with all broadcast consoles and software," the company says.

The system lets stations create professional-grade video production with no large crew needed. WinCam provides control of PTZ cameras and memorizes multiple pre-set positions for each. The platform works with any type of camera including USB, IP, NDI and SDI.

Users can start recording and streaming to three simultaneous destinations, including auto-titling, with a click of a mouse.

The system also provides specific auto-titling assigned to each close-up camera. Up to eight video calls can be handled at once.

WinCam also automatically selects the most suitable camera angle and manages close-up frames or wide frames. "In order to avoid untimely switching when several speakers talk simultaneously, the system alternates wide shots or 'picture-in-picture' type compositions where several cameras appear simultaneously."

The company said this algorithm mimics human control as closely as possible.

The latest version of winCam, paired with winMedia playout, is in use at ADJA Radio, a Patisen Group media project in Dakar, Senegal. ADJA's control screen is shown in the accompanying photo.

Info: winmedia.org





Lawo Beefs Up Power Core With Rev3

Power Core is a high-density I/O, mixing, processing and routing engine from Lawo that provides multiple high-density Ravenna/AES67 and MAD1 interfaces. It also offers modular mic, line, AES3, GPIO and Dante interfaces.

"The new Power Core Rev3, alongside the still available Rev2 version, boasts extraordinary I/O capacity," the company states.

"Using industry-standard Ravenna/AES67 networking, AoIP facilities built with Power Core can easily scale from simple two- or three-room on-air suites to massive broadcast networks with thousands of channels of analog and digital audio and control, full routing capabilities and facility-wide DSP bus and input audio processing."

The internal matrix provides 1,920 x 1,920 crosspoints, up to 96 channels of DSP input processing supply EQ, dynamics, de-essing, limiting and delay.

"Capable of powering consoles with up to 60 physical and 60 virtual

faders, Power Core offers support for up to four independent control surfaces simultaneously."

Power Core Rev3 has four Ravenna/AES67 ports with SFP, double the previous number. The additional capacity can be used to expand I/O to as many as 512 Ravenna/AES67 channels, or to provide LAN segment separations or LAN-WAN gateway applications in large-scale deployments.

Bidirectional Unicast Ravenna/AES67 streams are now supported for wide-area applications. The front panel now has a convenient USB port and an SD memory card slot with security cover for software maintenance operations.

A new GPI/O expansion card provides eight GPI + eight GPO and two VCA inputs. This brings control features to the family of Power Core expansion cards.

New DSP capabilities include a low-latency Loudness Leveler and other improvements.

Info: lawo.com

control who's in control

BURK TECHNOLOGY

Control who has access to your remote sites with Arcadia by Burk. Designate rights for individual channels or for entire sites or regions. Each user gets only the access they need.

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Update Your Sage Digital ENDEC

Sage Alerting Systems reminded its users about the Rev96 update for the Sage Digital ENDEC.

"This update addresses recent changes by the FCC to its Part 11 rules, including giving priority to CAP messages over an identical legacy message, and updating the text for national alerts," it said.

FEMA announced a National Periodic Test for October 2023, but the FCC rules don't take effect until Dec. 13, 2023, so either of the Rev95 or Rev96 updates are permissible for the October test.

The Rev96 update includes usability improvements, including

a login/out audit log and emailed weekly alert logs. The update is available from Sage distributors with a list price of \$159. Check Sage's website for additional information and availability.

Sage's recently introduced Alert Portal product is an optional software add-on to the ENDEC, allowing for browser-based origination of alerts. This is useful for stations with Monthly Test or other origination responsibilities, as well as public safety organizations that use legacy origination as a backup to IPAWS.

Info: www.sagealertingsystems.com

30

Super Hi-Fi Applies AI to Your Weather

Super Hi-Fi, an AI-powered SaaS platform, launched Weathercaster, a service for radio that is automated using artificial intelligence.

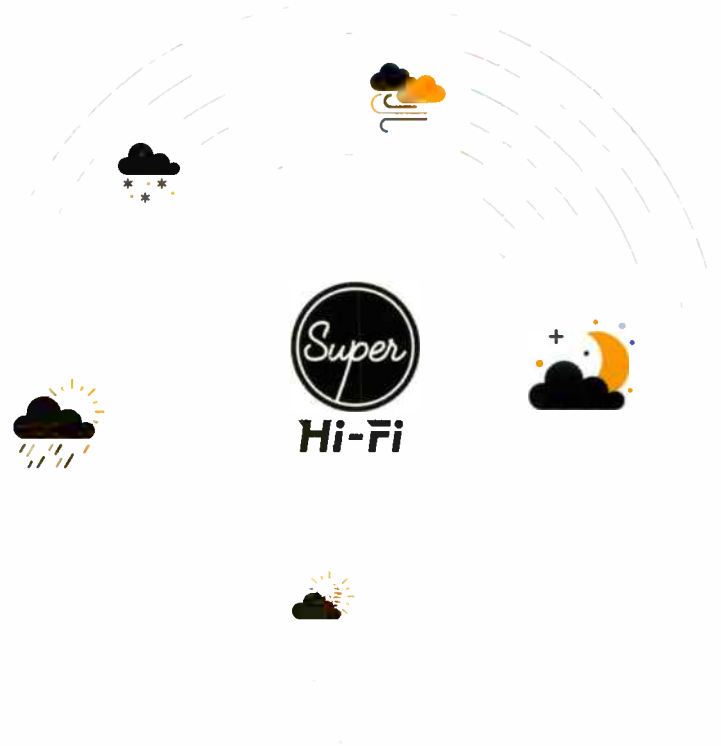
"Weathercaster is set to significantly enhance the way radio stations generate localized real-time weather reports, providing highly accurate, timely information while completely automating the content creation and audio production processes," said Super Hi-Fi in a press release.

The company says Weathercaster "goes far beyond basic reports." Accessing Super Hi-Fi's MagicStitch technology, Weathercaster incorporates synthetic voiceovers, integrated sponsorships, format-specific music beds and custom station IDs into its automated weather reports. These segments can be tailored to fit 15-, 30- or 60-second time slots.

"Weathercaster combines accuracy and reliability, premium production quality and an opportunity for stations to sell more premium sponsorships each day," said Zack Zalon, co-founder and CEO of Super Hi-Fi. It also offers custom, trackable sponsorship reads, designed to help stations to sell more premium ad spots.

The service has three subscription tiers — basic, premium and enterprise — starting at \$199 per month. Super Hi-Fi also offers bulk pricing for coverage across larger station groups.

Info: www.superhifi.com





A New Standard IP Core From DHD

DHD audio is out with the new XS3 core audio processor, which supports up to 20 stereo faders on DHD audio mixing consoles.

"Cores form the heart of every DHD system by processing all the audio as well as connecting control surfaces," the company wrote in its press release.

"They also perform input/output routing and interfacing with the outside world. IP audio feeds as well as IP-connected remote device control can be closely integrated. Automated workflows and product virtualization are also supported."

It said the XS3 will form the basis for the reintroduction of

mixer bundles that were popular with DHD users. These will be introduced for the SX2, DX2 and TX2 models with planned delivery at the end of Q4.

The XS3 occupies one rack space. A setup assistant tool allows a system supervisor to choose among default settings with a choice of assignable-button functions and display layouts. Advanced settings can be selected using DHD's Toolbox configuration software, available via an optional license.

Info: dhd.audio/products/cores/xs3

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Writer



Ken Deutsch

“I loved radio and just wanted to be a part of it”

Martin Ashley talks about his life in and around the medium he loves

Radio has changed much in the nearly 60 years since Martin Ashley began his career, and now at age 75 he’s finally retiring. Over the course of those years he was an engineer, air talent and syndicated disc jockey, frequently concurrently. He also ran a recording studio

and served his country for a time in the United States Army.

“When I was 15 years old I walked into a station in Sacramento, KJAY(AM), and asked if I could help them with their wiring,” he said.

“Since fifth grade I had loved electronics, and in high school I took courses in that field and also repaired sound systems and projectors in the audio/visual lab. I never thought about being a disc jockey. But the program director there, Rick Cimino, sat me down and told me that I’d make more money by being on the air than working behind the scenes.”

Ashley decided to pursue both engineering and air work. When he was 17, he started working part-time without

pay at KXRQ(FM) Sacramento as a weekend announcer. At about the same time he also narrated an album that was sold as a fundraiser for his high school.

“My first paying job was in 1966, for 92 cents an hour at KXOA(AM/FM) Sacramento, where I did 9 p.m. to midnight on the FM,” said Ashley.

“The station found out I knew about electronics, so the chief engineer asked me to watch the place, as he lived out of town. I performed the Sunday night maintenance under his supervision, I cleaned the cart machines, adjusted the heads on the tape recorders and changed the needles [on the turntable tonearms]. I was an engineer as well as a disc jockey, and if I were to leave, they would need to hire two people instead of one. I made myself as indispensable as I could and I was willing to do anything!”

During his service in the Army he was assigned to the radio/TV section of the Fort Bliss Public Information Office in El Paso, Texas. He worked there for two years in the late ‘60s.

Above
Martin Ashley
at KELP(AM)
in 1968.

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World Radio History



Above
In the 1980s Ashley formed a World War II reenactment group called the 427th Air Squadron. "We attended big band dances and regional air shows and were featured in a number of local television commercials and productions." This photo was taken in the B-17 "Texas Raider" at the airport in Nut Tree, Calif.

Right
At KROY(AM) circa 1980.

"We were tasked with providing a post-wide news phonenumber, to supply local El Paso stations with a weekly radio public affairs program of Ft. Bliss activities, interview and distribute interviews with individual soldiers for their hometown radio stations, as well as other audio related projects."

Wonder Rabbit

At some point Ashley got a nickname that stuck.

"In the late '60s a fellow jock at KROY(AM) opened his mic and said 'Wonder Rabbit will be on the air at midnight' — meaning me! He was referring to the way I had been hopping from task to task around the station."

Ashley apparently had invented multi-tasking before the term was popular.

"I was interested in everything," said Ashley. "While I was working at KXOA(AM), I set up a rudimentary recording studio as a side job in a friend's garage. At that time I was also doing a morning show.

"At my last studio in the '90s we recorded a lot of Mexican bands and it was like an assembly line," he continued. "They would drive up in an old Greyhound bus, we'd cut the music tracks, record vocals and mix an album, all in a week. The word spread quickly among the other groups because we were so fast, and because I spoke a little Spanish at the time. We even had an outside salesman who sold jingles we produced all over the country.

"I recorded a travelogue with Andy Griffith. Another big name was LaToya Jackson, who recorded some vocal with us. Actor Dom DeLuise cut some radio commercials. It was a beautiful studio that cost \$374,000 to build — and that was in 1980 dollars!"

For 13 years beginning in 1975, Martin Ashley also was part of a team that

voice-tracked for a CHR music format owned by syndicator Concept Productions out of Roseville, Calif. It provided around-the-clock programming with disc jockeys and music for stations throughout the country. Here, his moniker "Wonder Rabbit" was shortened to "The Rabbit."

"We couldn't say the time or temperature because we were in many markets simultaneously," Ashley said. "I could say 'It's great weather out there, if you like this kind of weather,' so obviously I couldn't be too specific. My voice tracks were usually cut between 5 a.m. and 7 a.m., and I would record two weeks at a time.



"This was in the days of automation when the music and voice tracks were on these big 10-1/2-inch reels that would be sent to subscriber stations."

Ashley's voice also was familiar to many viewers of public television. He was the station announcer for PBS affiliate KVIE, Channel 6 in Sacramento for 23 years, and its productions were often fed to other PBS facilities and included his narration.

“When I first walked into a station for a visit, I knew right then that radio would be my major career.”



He has enthusiasms other than radio. He earned his private pilot license and owned a Cessna 150H for more than a decade, during which he flew voluntary medical missions for California's AirLifeLine, a network of volunteer pilots and airplane owners who fly low-income children and adults to and from specialized medical treatments.

He helped form a World War II B-17 reenactment group. He created a monthly newsletter for another WWII veterans and enthusiasts group called The Grey Eagles, of which he was a co-founder.

After selling his Cessna he purchased a retired Sacramento Fire Department fire engine and spent 11 years refurbishing the pumper for display at schools, parades, museums and other fire department functions. He has also enjoyed refurbishing a 1943 WWII military Jeep and a 1966 Ford Mustang.

"I'm now officially out of hobbies," he says.

Radio World asked Ashley about the biggest changes he has seen over his radio career.

"From an engineering standpoint, a lot!" he said.

"Every station used to have its own engineer. Now you have a cluster of stations with one engineer. At the last



Above
Martin Ashley,
deputy director
of the California
State Senate radio
studio, 2022.

station I worked for as chief engineer, KSFM(FM), also in Sacramento, I had no assistant, I was on call 24 hours a day, seven days a week, 365 days a year. My wife can attest to the fact that I had to miss a lot of holiday dinners because of some station issue. Owners today don't want to spend any more money than they absolutely have to, and studios have often given way to just a computer in a closet.

"And with respect to air talent, some stations will be moving from live talent to artificial intelligence. The AI voice systems are getting so good that perhaps stations won't have to have DJs at all, and even more jocks will be out of work."

And does Ashley have an overall philosophy about working in radio?

"When I first walked into a station for a visit, I knew right then that radio would be my major career," he said. "As I watched the disc jockey through the window I wanted to be in that studio. I wanted to run the equipment, but I also wanted to talk on the air and play music. I just decided to do whatever management needed so as not to jeopardize my career. If they wanted me to work until 3 a.m. I did that.

"I loved radio and just wanted to be a part of it. I've had a good run of nearly 60 years in broadcasting. It's time for others to take up where I left off."

Writer Ken Deutsch had a small career in radio. That's pretty much the end of that story. 🎧

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CH Media gets artistic with Leonardo

The new headquarters brings three former locations from Zurich under one roof

With its “Leonardo” project, CH Media Entertainment has created a new headquarters complex for radio, regional/national television, and online content in the Oerlikon quarter of Zurich.

“CH Media Entertainment is considered number 1 in the private radio and TV sector in Switzerland and stands for first-class entertainment nationwide,” said Head of IT Andy Russ.

“The company operates six locations in German-speaking Switzerland — Aarau, Bern, Lucerne, St. Gallen, Solothurn and Zurich — and produces for nine full-service radio stations: Radio 24, Radio Argovia, FM1, Radio Pilatus, Radio Bern1, Virgin Radio Switzerland, Radio Melody and FlashBackFM.” Another site with three stations is being added this year.

He said the portfolio also includes five regional and nine national TV stations and five Online Today platforms, and a variety of streaming platforms with individual programming. CH Media owns 80 brands in radio, TV, newspapers, magazines, advertising papers, digital platforms, print and distribution.

The facility makes extensive use of Lawo, Broadcast Bionics and Clearcom equipment. Architectural services were by the Zurich-based Moor Architekten, while planning for electrical, heating, air-conditioning and ventilation installations was carried out by a planning office from Zurich. SLG Broadcast provided support for the studio-related technical planning and the acoustics. The technical transformation of the building was awarded on the basis of a call for proposals. SLG Broadcast and CH Media were jointly responsible for integration of the audio systems, intercom and real-time



More Studios

You can see more photos and read our interview in “Spectacular Radio Studios 2023” at radioworld.com/ebooks

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Studio Facilities

SMPT 2110 networking for the radio facilities.

"The radio facilities of the Leonardo project comprise three broadcast studios, two production studios for on-air support, two news production studios and two studios for multitrack editing, plus a 'tri-medial' newsroom — radio, TV and online — with four production and planning workplaces for radio news."

The Leonardo headquarters brings three former locations from Zurich under one roof. It also established a real-time connection via audio/video-over-IP (Ravenna as well as SMPTE ST 2110) to the other CH Media Entertainment locations for radio and TV.

You can see more photos of the project and read our interview with Andy Russ in the free ebook "Spectacular Radio Studios 2023" at <http://radioworld.com/ebooks>. 



Left
Dominik Widmer, morning show host of Radio 24, stands in the new studio.

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GPI-16 + G2

Serial/USB GPI/Trigger Interface

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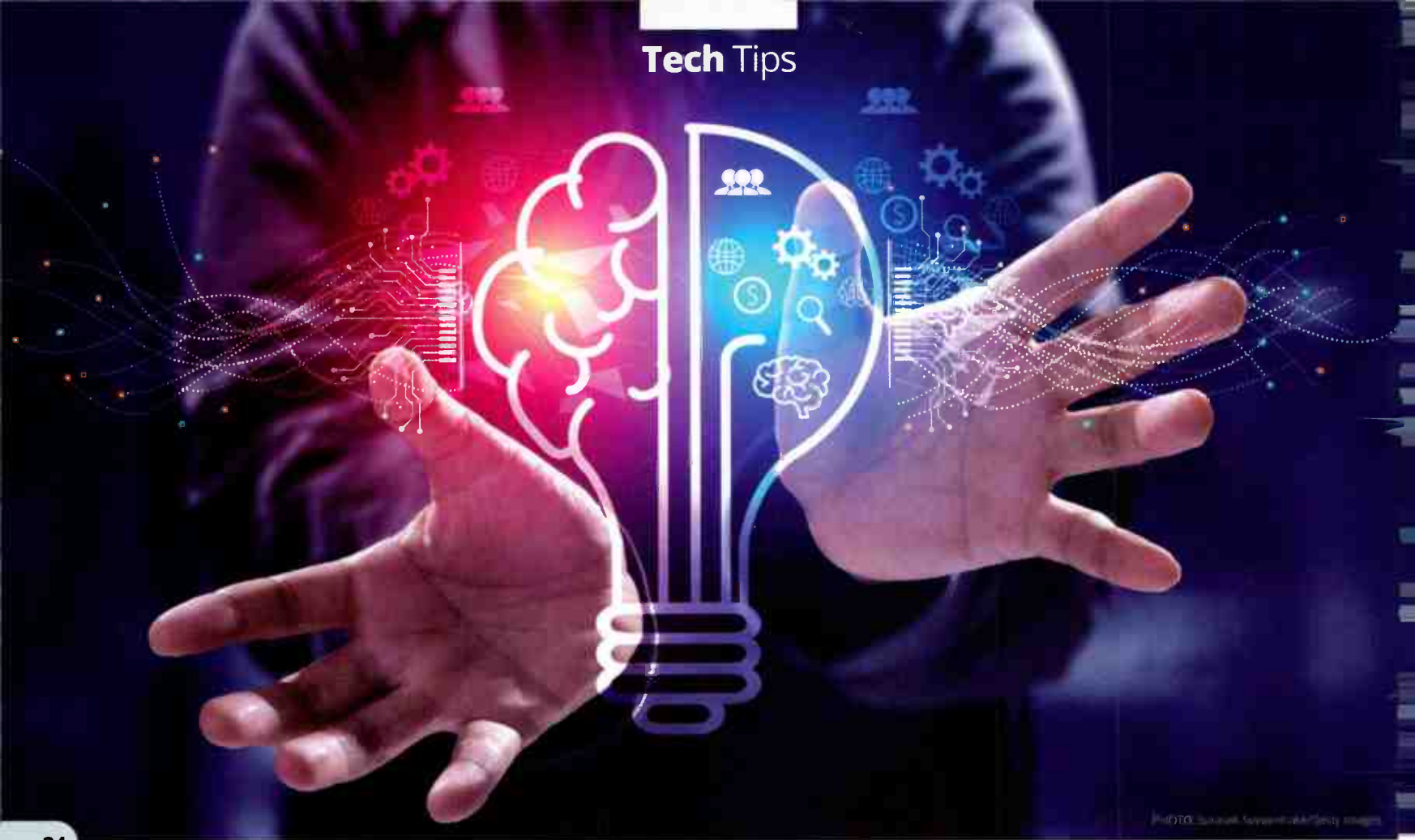


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Writer



Michael Baldauf

DSL is a godsend at LPFM site

Sometimes the “forgotten solution” is best

When working with LPFM radio applications, I find myself having to come up with innovative solutions with little financial support — reliable antennas, audio processors, transmitters, and of course solutions

for studio-to-transmitter links.

The latest STL adventure in our little town was a new site that was being set up atop a former hospital building that had been converted to a medical training facility.

Unfortunately the studio is in a very low area of town that has no line of sight for a microwave STL.

My first STL solution looked like a slam dunk: A TV station had a cable modem for one of the cameras in their weather network up on top of the building. I asked permission to use some of their bandwidth in exchange for some on-air plugs and they were interested. After checking with the cable ISP I was told that the requirements for the static IP for the camera would not allow me to have access. Then the ISP informed me that

there was no further bandwidth in the building to provide another cable drop.

My second solution was to try a hotspot provided by a local cell phone company.

Although the cell networks in larger cities might have been a good solution, the ones here do not support the necessary configuration for Barix links. I used computers as a temporary solution, but the link would crash the stream at least once a day and then I would have to remote into the computer and

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World Radio History

restart it, and the latency would sometimes get up to over two minutes.

I was going to use the IP network of the medical training facility, but my experience with them indicated that this was not a good solution.

So how was I going to get the signal from the studio to the transmitter site on top of an older building? What infrastructure does an older building have that would support basic internet service?

Remember DSL? Yes, it is still around! I found out by speaking to the person who installed and managed the two-way and paging system for the building that DSL should be an easy solution.

He said the current phone system access was managed by CenturyLink. He told me where their system was terminated on the third floor and that he had an unused 25-pair cable that went from that room up to the rooftop pod where our transmitter would be.

The solution seemed at hand but then I had to try and contact the DSL company. My internet searches ended with me wasting several hours on phone calls to global call centers that took my information and never replied.

Somehow another person with the station managed to find a local number and a local person who knew the area.

I scheduled the installation on a day when the CenturyLink

“ **The service is priced competitively, month to month, no long-term contracts. The support is local and I am able to move on to other projects.** ”

installer and the two-way and paging engineer could be in the building at the same time. The CenturyLink technician punched down the line and the two-way engineer ran a 10-foot pair over to his block and punched it down on the lines going up to the roof. They tested the lines all the way to the transmitter area and put a modular jack in place.

The service is priced competitively, month to month, no long-term contracts. The support is local and I am able to move on to other projects.

DSL is not a solution I would have thought of. But for my LPFM rooftop site, DSL is a godsend. 🙏

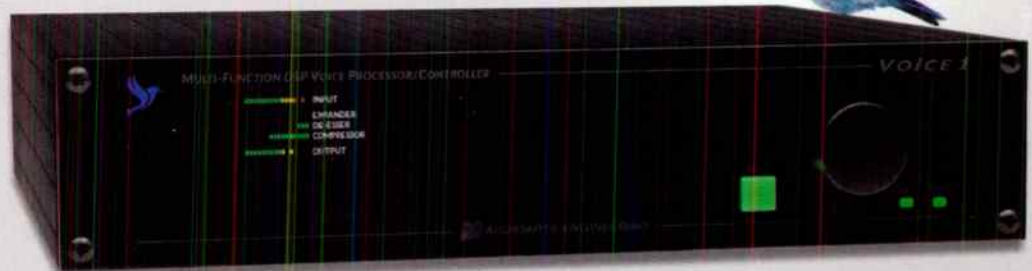
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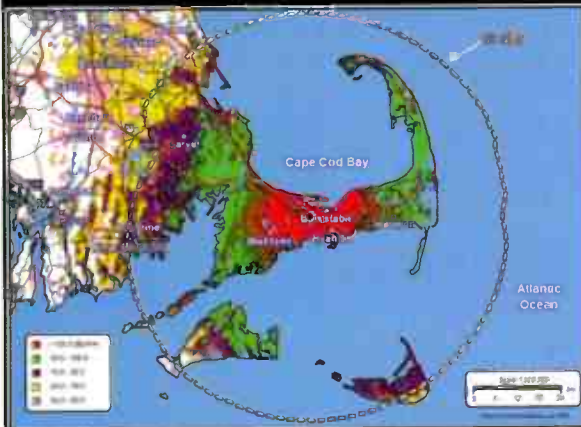
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What defines a broadcast mic in the 21st century?

PAMA members have answers



W

hat defines a broadcast microphone? It could be argued that any microphone used for a broadcast purpose fits the bill, but that fails to focus in on the unique needs of broadcasters and the highly sensitive,

market-driven efforts that manufacturers are undertaking to deliver what today's broadcasters need.

In a recent survey conducted by the Professional Audio Manufacturers Alliance (PAMA) of member companies, representatives from major professional audio brands — Shure, Audio-Technica, Harman and Sennheiser — were asked to share their opinions on broadcast mics.

The resulting information reveals certain common threads among these industry leaders: namely, that a broadcast mic should be highly tailored to the end user and their application, with the manufacturer thinking several steps ahead to make the microphone a highly durable tool able to withstand the rigors of everyday use (whether in studio or in the field).

And just as crucially, a broadcast mic should serve as a successful, user-friendly, often nearly transparent or entirely invisible tool that performs as intended in a variety of settings.

Blurry lines

A full accounting of what is considered a broadcast microphone is harder than ever to nail down.

An on-air radio mic, a camera-mounted or boom-mounted shotgun mic, a radio or TV reporter's handheld ENG interview mic, on-air talent lavalier — these are all very different microphones designed to serve different purposes, yet they are undeniably broadcast mics.

Writer
Frank Wells

Clyne Media, a PAMA member company

But what about microphones geared more toward the growing content creation and podcasting market, such as hypercardioid USB mics? (Not to mention tools, like boundary microphones, used for videoconferencing, which is part of basically everyone's reality post-COVID.) Or what about a multi-channel microphone capable of capturing an immersive multi-channel soundfield at a sporting event for surround-sound production?

The line between consumer audio, broadcast audio and specialized pro audio starts to get blurry.

It is worth having the discussion, though. What characteristics, features and special considerations make a microphone more suited for broadcast purposes over an otherwise comparable product? What market demands are manufacturers responding to when they engineer a broadcast solution?

Some microphones have the reputation as often somewhat fragile gadgets, but well-engineered broadcast microphones should be rugged and durable.

John Born, associate director of product

management at PAMA member company Shure, remarks in his survey response, "Everyday use can be rough on technology, and the realities of broadcast audio really can put a mic through the wringer. A broadcast mic should offer the ability to deliver excellent audio quality despite different factors such as moisture, heat, rain, humidity, air pressure differences, ingress protection, storage, transportation, etc.

"And budget-wise, we know that broadcasters measure time in decades rather than years, so products must last. And in instances where components do wear out over time, there is an opportunity to think in terms of modular, replaceable parts to lengthen the investment."



Some of the most technically skilled and knowledgeable audio professionals in the industry today work in broadcast; however, for every white-paper-submitting AES contributor, there are several who have more of a background in electronic journalism than audio engineering. These pros need their microphones to be rugged and “just work” come crunch time, with minimal troubleshooting or extra technical wizardry required.

Gary Boss, PAMA board member and Audio-Technica U.S. marketing director, remarks, “Many of these mics may be used by non-audio engineers, so ease of use is high on the list of design considerations. Vocal intelligibility is key, so for we often concentrate on a flattering vocal curve without sacrificing high-end articulation for these products. Furthermore, we know that condenser mics like shotguns will often be run with pretty high gain, so low self-noise is an important spec.”

Chris Hansen, PAMA board member and director of recording at Harman International, stresses the versatility of a successful broadcast product.

“Broadcast audio has its own set of challenges as technologies and formats continue to evolve. Just a few years ago, USB microphones were thought of as low-fi audio devices. Now, with the growth of podcasting, gaming and streaming, many individuals who once considered themselves hobbyists now see themselves as professionals — and they expect professional results from their equipment. In the post-pandemic environment, the worlds of content creation, video conferencing and production have converged with broadcasting. There’s a lot of overlap.”

Thus, Hansen notes, some USB microphones are capable of 96 kHz hi-res audio output. That’s comparable to an analog XLR microphone with high-quality conversion from an external audio interface. Production playback for



Above
Clockwise
from upper right:
John Born,
Gary Boss, Dennis
Stegemerten,
Chris Hansen

broadcast audio can occur on desktop studio monitors, headphone or sometimes on Bluetooth-equipped headphones.

“These devices can be found within the same production ecosystem. Manufacturers have to be open to that reality. Products must be cross-platform and format-agnostic.”

Dennis Stegemerten, solution architect at PAMA member Sennheiser, stresses that besides audio quality and robustness, the look of the microphone can also play an important role.

“A broadcast mic should look professional on a person; on camera, it should be lightweight. A lavalier mic, on the other hand, should basically be invisible while still delivering great sound. If a manufacturer can nail all these features, they will have a winner on their hands.”

So an answer to the question of “what makes a broadcast mic” is perhaps more mercurial than ever, but the manufacturers responding to market trends know that durability, ease of use (even for non-engineers), a high level of versatility and a consideration for visual aesthetics are several of the important features that factor into the success of a microphone created for the broadcast market.

The Professional Audio Manufacturers Alliance is “the collective voice and forum for the leading manufacturers of professional audio products and the people who use them.” Learn more at www.pamalliance.org. 

“The line between consumer audio, broadcast audio and specialized pro audio starts to get blurry.”



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SO...what's really in the box?

ALL SIGNAL PATHS

- Analog, AES3 and Wheatnet-IP audio
- AES3 input accepts 32kHz to 96kHz sample rates
- Variable high pass filter and voice phase rotator
- Dynamic L/R correlation meter for proper stereo channel phase
- Front panel setup
- PC-based GUI included
- Ethernet-based remote control
- Four-band equalizer: low/high shelf plus two-band parametric
- User-adjustable multiband crossover frequencies
- Independent multiband compressor and leveler can be operated separately or in combination
- Multiband spectral manager

- Newly developed bass management
- High-performance low distortion multiband limiters
- Metering for all input and output levels and dynamics processing

FM PATH

- New distortion-masked FM peak clipper
- Specialized live voice algorithm minimizes vocal distortion
- Exclusive stereo multipath controller
- RDS/RBDS generator, static and dynamic
- Precision FM stereo MPX generator with multiplex mask filter
- Baseband192 built in for 192kHz digital MPX link to transmitter

- Support for ITU.BS-412 MPX
- Ten seconds of FM/HD diversity delay
- Test oscillator

HD/STREAM PATH

- Low/high shelf plus two-band parametric equalizer
- HD/Stream final processing accepts audio from unprocessed input, output of AGC, or output from multiband limiters
- Oversampled precision look-ahead limiters for exceptional final peak control
- Specialized dynamic high frequency protection for low bitrate codecs; also operates in wideband (>12kHz) and <12kHz modes
- ITU-BS.1770 loudness metering and controller