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Regional trade shows sparkle!

Inside, a sampler of radio conferences coming in the next few months.

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Gear gone by

These products in Workbench have some history on 'em.

From here to there

Buyer's Guide takes a look at the latest codecs and STL gear.

Nice pix of stix

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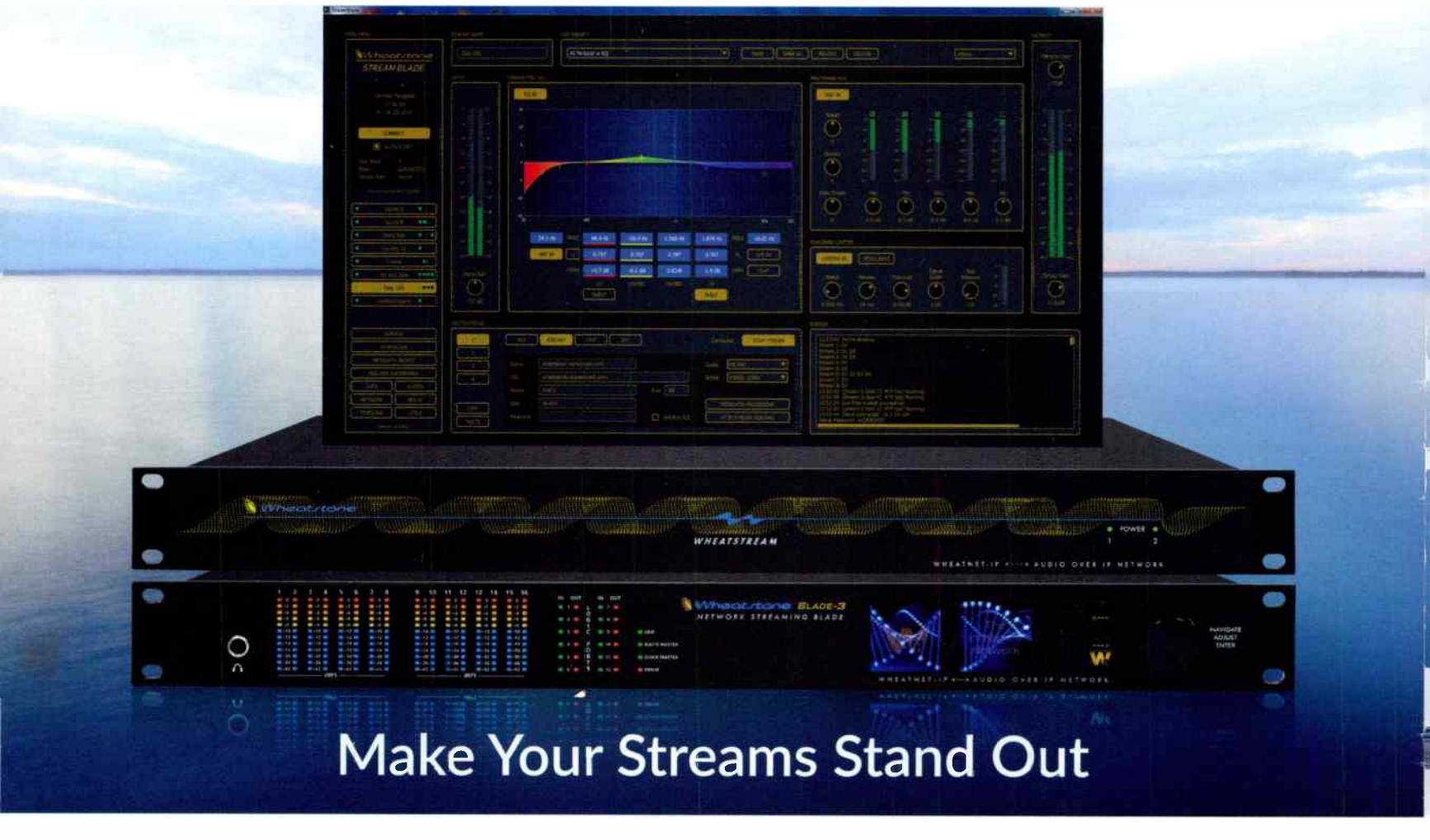

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Well done, Donna

And welcome, Gregg and Nick!

Paul McLane
Editor in Chief

Congratulations to Radio World contributor Donna Halper, who has been inducted into the Massachusetts Broadcasters Hall of Fame.

Longtime readers know her as a widely respected consultant, author and university professor (with a doctorate, no less), as well as the woman who discovered the rock band Rush when she was on the air in Cleveland. She also received the Massachusetts Broadcasters Association Hall of Fame Pioneer Award, given "to individuals who have distinguished themselves over decades for lasting contributions made to the broadcast industry and through a leadership role in their particular craft." That's Donna, for sure.

Meanwhile attentive readers will have noticed two new bylines in recent issues.

I'm pleased to welcome Gregg Skall of Telecommunications Law Professionals. Gregg is among that small number of lawyers with truly deep expertise in broadcast law and FCC policies that affect radio stations. He wrote our cover story about marijuana advertising last month.

Also welcome to Nick Langan. He's the operations manager at Villanova University's 89.1 WXVU in Villanova, Pa., and a lifelong radio enthusiast, with a special interest in long-distance FM signal reception; he's the designer of the free RadioLand app that locates "listenable" FM radio stations from a given location in North America. You have read Nick's articles about Joe and Jeff Geerling's YouTube videos and iHeartMedia's recent investment in AM facilities.

Finally, my apologies to Dan Kelley for misspelling his last name in our story about state EAS plans in July. We dropped an "e" — it's probably not the first time it has happened to him, but as someone who still occasionally gets snail mail addressed to Paul McLove, I like to get names right!

Donna Halper

Gregg Skall

Nick Langan

THIS ISSUE

NEWS
3 From the Editor
4 Newswatch
5 Regional trade show season ramps up

FEATURES
12 What's your favorite gear gone by?

BUYER'S GUIDE
18 Beasley's journey from T1 to IP with GatesAir
20 Crawford integrates Tieline AoIP solutions
22 Comrex helps Seacrest create bright spots for kids
26 Yourside supports a railroad broadcast on "Day of the Composer"
27 Tussas relies on WorldCast for major STL rollout

OPINION
29 Readers' Forum

World Radio History

HD Radio Power on the Agenda

The FCC is expected this month to advance two technical proposals involving HD Radio FM power levels.

The commission will not give a final OK at its August meeting, but a yes outcome will indicate tentative approval and ask for public comment.

NAB and Xperi want the FCC to update its formula to determine which stations can use the highest allowable digital power levels. They say radio station conversions to hybrid digital transmission have not kept up with the number of digital FM receivers in the market, especially in automobiles. They believe that a big reason is the difficulty of replicating an FM station's analog signal using currently allowable digital power levels.

That proposal has been combined with another from NAB, Xperi and NPR. They want the FCC permanently to authorize FM stations to use HD Radio with asymmetric sideband power without requiring separate or experimental authorization.

They say digital FM stations should have the option to protect adjacent analog FM stations while increasing power on the other sideband frequency to expand digital coverage and building penetration. They believe many more digital FMs could increase power above -14 dBc on at least one sideband.

Chairwoman Jessica Rosenworcel said the goal of the planned order and notice of proposed rulemaking is to improve digital FM signal quality and coverage while minimizing harmful interference.

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Regional trade show season ramps up

Here's a sampler of state and regional conferences in the second half of the year

Writer
Paul McLane
Editor in Chief

Like their large national counterparts, state and regional trade shows were forced into hiatus by the pandemic but have now returned in force. These events offer attendees a friendly vibe, familiar faces, convenient locations and unrushed conversations. Despite their local vibe, some of these events draw people from all over the country.

The second half of 2023 includes a number of them; here's a sampler. We'll have previews of the IBC, AES and NAB New York shows in subsequent issues.

Texas Association of Broadcasters

68th Annual Convention & Trade Show

When: Aug. 2–3

Where: JW Marriott, Downtown Austin, Tex.

How: *https://tabshow.org/*

Highlights: "The event is the largest state broadcast association convention in the nation ... it's THE place to do business in Texas broadcasting." Some 1,400 annual registrants come from radio and television stations in Texas and across the United States. There's a day and a half of training geared towards broadcast owners, managers, salespeople and engineers; networking opportunities; and a 115+ booth trade show.

Sample session: A new "Chief Operator for Radio Course" led by Gil Garcia and Steve Hasskamp, providing basic knowledge and understanding of responsibilities essential to maintain a station's day-to-day operations as a chief operator. Other tech topics include AI in radio, DTS AutoStage, FCC inspections, ATSC for radio.

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Alabama Broadcasters Association

2023 ABA Conference & Engineering Seminar

When: Aug. 11–12

Where: Ross Bridge Resort, Birmingham

How: *https://al-ba.com/wp2/*

Highlights: An all-day engineering seminar on Friday Aug. 11 discusses tower lighting, EAS rule changes, the ABIP program and HD multichannel modes; it costs $50 including lunch. The broader ABA convention also includes an exhibit hall and management sessions on recruiting, sales, news, legal/FCC and branding/marketing. The show will feature a salute to retired U.S. Sen. Richard Shelby, as well as Broadcaster of the Year and Hall of Fame inductions.

Sample: Tom Amador of Dialight Corp. discusses the latest in tower light systems and compliance with FAA/FCC rules for tower lighting.

Tennessee Association of Broadcasters

75th Annual Conference

When: Aug. 20–21

Where: Country Music Hall of Fame, Nashville

How: *https://tabtn.org/75thannualconference/*

Highlights: "The conference will begin with an opening evening reception at Barlines, located in The Omni, on Sunday, Aug. 20. Sessions will begin early on Monday, Aug. 21, and end later that afternoon before the Excellence in Broadcasting Awards Banquet. We will also be having our Summer Board Meeting the following morning on Tuesday, Aug. 22." Technical presenters include Jeff Welton, Kirk Harnack, Mike Pappas, Chris Tarr and Bill Jackson. The event also features exhibits.

Sample: Shawn Donilon, the EVP of government relations at the National Association of Broadcasters, will be a featured speaker.

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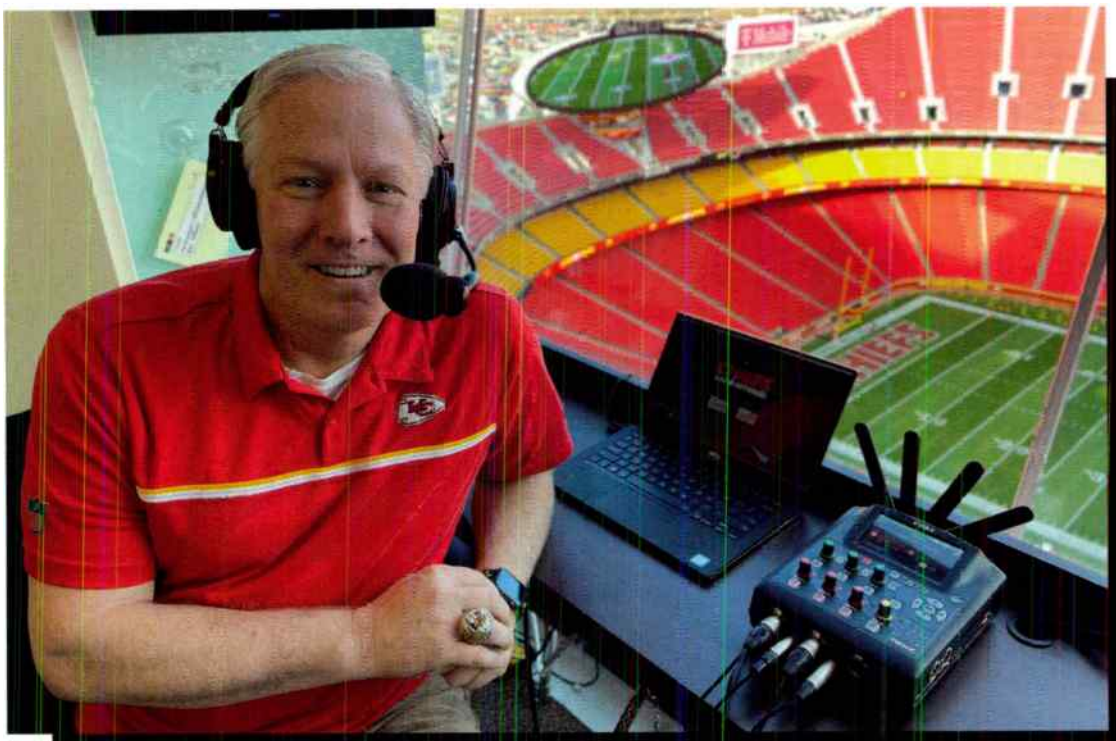
I Trust ViA for Sports Remotes



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CCBE - Central Canada Broadcast Engineers, Technologists & Technicians

Career Development Conference

When: Aug. 24–26

Where: Kingbridge Conference Centre, Toronto

How: *https://ccbe.ca/*

Highlights: "Two days of technical papers and training sessions conducted by design engineers, industry professionals and their representatives. An opportunity to meet and network with technology pioneers, equipment manufacturers and distributors. Topics include Xperi's game-changing DTS AutoStage platform, Futuri's revolutionary RadioGPT AI, local innovator Guelph Solar explaining the Tesla Wall back-up power system, and updates on regulatory issues."

Midwest Broadcast & Multimedia Technology Conference

When: Sept. 28

Where: Greater Columbus Convention Center

How: *https://mbmtc.oab.org/*

Description: "This full day of learning and networking is designed specifically with broadcast engineers in mind, providing you with an opportunity to explore best practices, compliance guidance and the latest technology and equipment available. ... This year we are bringing together engineers from four states as the Michigan Association of Broadcasters joins the state broadcast associations of Ohio, Indiana and Kentucky in presenting MBMTC 2023." Includes exhibitor showcase, door prizes, dining, panels and breakout sessions. Admission is free.

Highlight: The SBE national meeting will be held in conjunction with the conference, including the national awards reception and dinner and SBE's annual membership meeting.

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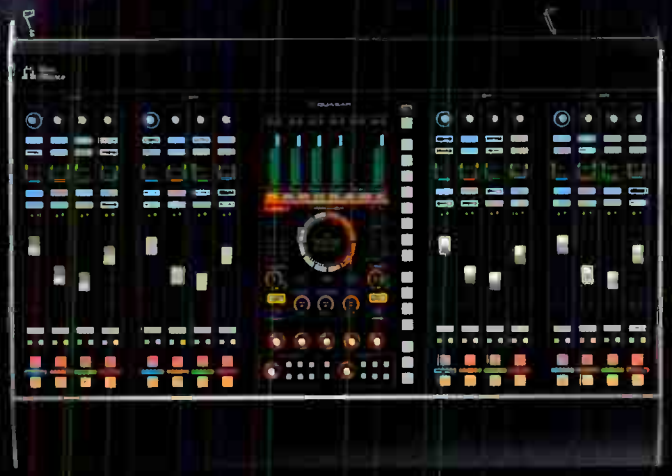

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Wisconsin Broadcasters Association
Broadcasters Clinic

When: Oct. 10–12

Where: Madison Marriott West, Madison

How: *https://www.wi-broadcasters.org/events/broadcasters-clinic/*

Highlights: Technical sessions over three days include explorations of virtualization, MPX over IP, metadata, IT security, site maintenance and the future of AM. Radio-related topics are in the first two days. This long-time popular engineering event also features an exhibit floor.

Sample: Radio World Editor in Chief Paul McLane moderates a discussion of the impact of generational AI on radio workflows, with Fred Jacobs of Jacobs Media and other invited guests.

Western Association of Broadcast Engineers
WABE Conference

When: Nov. 27–29

Where: Sheraton Vancouver Airport Hotel, Vancouver, British Columbia

How: *https://wabe.ca/*

Highlights: "WABE's local, friendly and down-to-earth approach makes this the conference filled with the people who use, install and make technology happen on the ground floor of a wide range of business that include media, broadcast, film, marketing and live events departments across Canada." A networking event on Monday is followed by two days of sessions and free exhibit hall with 40+ vendors. Topics include AI in media, PTP, AV fundamentals, SBE certification exam opportunity.

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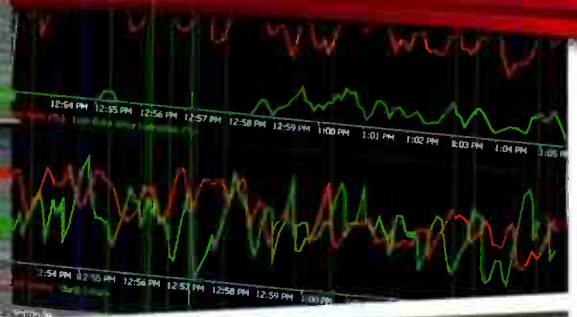

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What's your favorite gear gone by?

Rob and Al share products that have some history

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.

When Rob Atkinson saw our photo of a dual-coil telephone line contraption in Workbench last month, he immediately thought of something he'd used with his own Plain Old Telephone Service in the past but later removed after converting to DSL or VoIP phone service.

Searching in his basement, he found it and encloses the photo you see here, showing it next to our earlier article on his computer screen. What fun.

He said the contraption bears the label "Broadcast Technical Maintenance Service -- Charles D. Sears." Sears was a longtime TV engineer in Indianapolis and worked at other TV and radio stations; he was a member of SBE and ARRL.

How Rob came to own this is lost in the mists of time. It may have been in a dark AM site that he was cleaning out for a client, or maybe it was at a hamfest. Rob says he may very well use it when he has to run a line for DC out to one of his ham antennas.

Right
Rob Atkinson identifies an "oldie but goodie" hidden in his basement.

Share that thang!
Your oldie is someone else's goodie. Tips qualify for SBE recertification credit. Email *johnpbisset@gmail.com*.

Copper and self-inductance

In the April 5 issue of RW Engineering Extra (the one with the cool story about the NAB PILOT test bed), Steve Walker wrote about practical grounding tips to thwart lightning. Paul Sagi then emailed us from Malaysia to comment on the good tips Steve offered.

When dealing with lightning, Paul suggests that copper strap is superior to round copper wire due to the strap's lower self-inductance.

Self-inductance is an issue because the lightning current has a very fast rise time. An equation that helps one understand the situation is $V=I\ (di/dt)$. In this formula, I is inductance, and the formula indicates the voltage generated depends on the inductance and the rate of change of the current (di/dt).

Paul found this relevant years ago in a factory that built and tested 33 kV switchgear. When they tested it at 68 kV, the factory destroyed the tester Paul's company had sold them. Flashovers caused surge currents that were effectively bolts of lightning.

After making a diagnosis, Paul met with the company's CEO and wrote two equations on a napkin: $I = C\ (dv/dt)$ and $V = I\ (di/dt)$.

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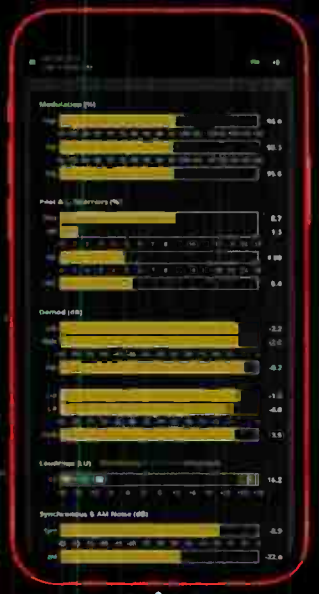

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Above
Al Peterson used this ol' workhorse to dub scores of tapes to DVD.

The C came from the insulators in the switchgear. The flashovers were rapid discharge from 68 kV to 0 V, thus a very large dv/dt.

Paul suggests that if copper strap isn't available, use many parallel round ground wires. Making the grounds parallel reduces the overall inductance.

Gear gone by

Check out the photo above. When is the last time you saw one of THESE babies? A real live Otari MX-5050 in full working condition?

Al Peterson has been on a quest to digitize his entire collection of reels and cassettes stretching from the start of his career (1977, college radio) 'til the dawn of MP3 storage. He needed a half- and a quarter-track machine to access the contents of the reels. Both are hard to come by since tape was phased out in the 1990s. Even AV companies and recording studios came up dry when he asked around.

Enter Virginia broadcast engineer and fellow ham Chris Courson. He's the guy who keeps WMBG(AM), its FM translator and many other local signals humming happily along. When Alan asked where he might find a working reel-to-reel, Chris loaned his personal 5050 to complete the task.

What's nice about this model is that it has a head switch, which allows the playback of two-track or quarter-track tapes.

For three straight weeks of evenings in his home recording space, Al says that Otari brought back memories of crazy on-air shifts, wacky commercials and even a few forgotten childhood tapes that got mixed in. (He says it's amazing how bodily function sounds are still funny nearly 60 years later.)

In the end, Alan was a little bummed to discover that his entire life in audio fit neatly on a pair of DVDs, with room to spare. But he hands it to those Otari folks: They made a tape deck that was bullet-proof and can still turn in a stellar performance these many years later.

Al jokingly captioned his photo "Two Old Fossils in One Picture."

Do you have a favorite piece of "gear gone by"? Tell us so we can share it with your fellow Workbench fans. Don't forget to include a high-resolution picture. Email me at *johnpbisset@gmail.com*.

Give us the bird

We've received a number of comments about what kind of bird may have created the haystack mess in the communications shelter pictured in the July 5 Workbench.

Workbench contributor Ken Lundgren also asks about that shelter. In fairness we should note that the building had been abandoned for some time (though our tip about those missing rubber boots remains in effect). An engineer who had been sent to that site to ready it for a new transmitter installation discovered the mess.

The large primary haystack makes one think of a big bird. Ken thinks those "nests" don't look like the work of a robin or sparrow, but could a big bird fit through the open coax port, or was it just an industrious avian? What do you think?

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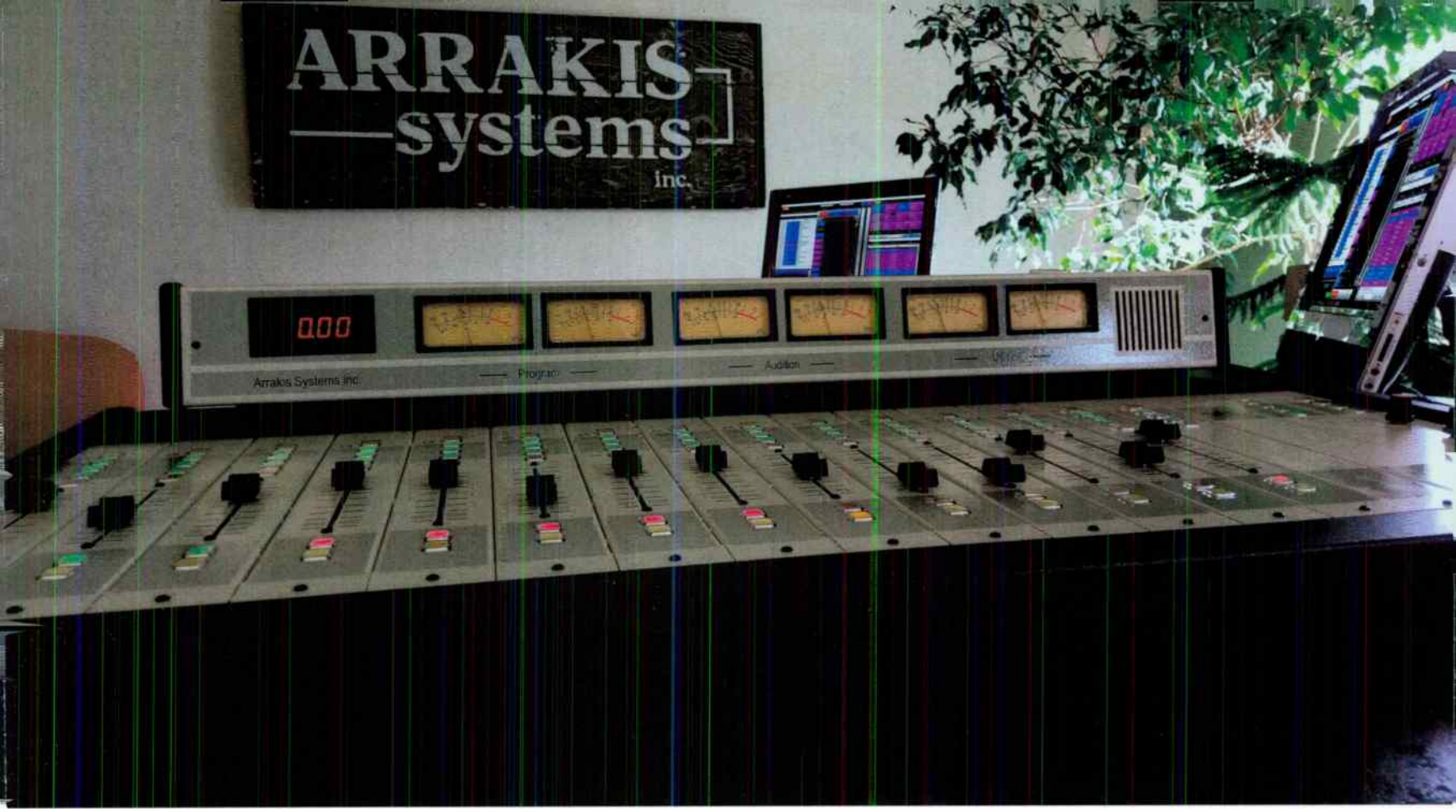

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About Buyer's Guide

The Buyer's Guide section appears in every other issue, focusing on a particular category of equipment and services. It is intended to help buyers know what's on the market and gain insight into how their peers are using such products.

Above
Intraplex IP Link 200 units in situ.

More Info
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Beasley's journey from T1 to IP with GatesAir

Don Melnyk deploys Intraplex gear in a multi-layer transport model

Beasley Media Group's robust presence in the Philadelphia market includes several of the region's most iconic FM radio stations, including WMGK, WMMR and WPEN. As an engineering professional for Beasley's Philadelphia and New Jersey stations for nearly two decades, Don Melnyk has had direct line of sight into the technology shifts that keep these beloved brands moving forward.

HD Radio has been one initiative, with Melnyk overseeing recent implementations of GatesAir's FMXi 4G embedded importer/exporter solutions with built-in diversity delay. However, Beasley's journey with Intraplex transport and networking solutions in Melnyk's region has perhaps been the most interesting.

"When HD Radio surfaced in 2004, we knew we would need very high-speed data transport to our transmitter sites," said Melnyk, who today serves as regional director of engineering and IT.

"It was very expensive back then to use true point-to-point Ethernet circuits, so many broadcasters, including Beasley, used T1 systems. We had many Intraplex T1 systems in operation at the time, and they were extremely reliable but offered limited bandwidth."

Melnyk discovered GatesAir's Intraplex IP Link codecs around 2015, which opened new transport and networking opportunities.

"There was an immediate comfort zone," said Melnyk. "The IP Links maintained the same reliability we enjoyed with Intraplex T1 systems for STL transport, and they are very easy to configure. We have since found that this is also a very flexible technology to deploy."

Melnyk points to one example as a likely standard-bearer for Beasley stations. "We have a wired Ethernet fiber circuit work as our primary, and have installed an Intraplex HD Link for our 950 MHz microwave as a secondary feed, which connects to an IP Link," he said.

"We also have separate IP Links for additional redundancy. The IP Links include Dynamic Stream Splicing, which repairs streams at the receive point if packets are lost in transit. That maximizes our reliability."

There is also the benefit of longevity with Intraplex products. Several Intraplex T1 systems remain in service, though Melnyk expects to phase these out as his new multi-layer transport model takes hold.

"Those old frames continue to serve us well, but the costs of T1 transport have gone through the roof," he said. "We will save $2,400 a month per station upon transitioning from T1 to IP."

World Radio History

Tech Update

Do You U.192?

The newest product from MaxxKonnect is the result of a collaboration with Angry Audio. It's called the MaxxKonnect Broadcast U.192 USB-MPX audio interface.

"It's the first, purpose-built, broadcast-quality USB audio card with analog and digital composite outputs natively," said Josh Bohn, president and founder of MaxxKonnect.

"This is the most elegant and professional way to get analog or digital audio into and out of your favorite software FM processor, such as StereoTool."

Sold through broadcast dealers, it retails for $895 and is expected to begin shipping by early September.

"Unlike consumer-grade 192k cards, input and output can be accomplished on the same device without OS device errors or USB conflicts or confusion," Bohn said.

"Also, with adjustable input sample rates between 32 and 192 kHz, you can clock it to your house rate and never have to worry about up-sampling like you would on a consumer card. Plus, it'll do Digital MPX as well as analog simultaneously and has analog or digital inputs, which are switchable from the front panel."

Features also include front-panel audio presence indicators that monitor the outputs, either Composite 1 and 2 or L/R depending on the application, an internal AC power supply and optional rackmount kit.

Info: www.maxxkonnect.com

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World Radio History

Crawford integrates Tieline AoIP solutions

Broadcast group deploys codecs for remotes, content distribution and STL applications

Thinking about how remote broadcasts were done when she started as a board op in 2002, Amanda Hopp, CBRE, says it almost doesn't seem real.

"Once a venue was selected, then the process of getting some sort of POTS line brought in began, followed by making sure there was an engineer to haul the gear, set it up, run the show, break down and haul the gear back out."

Hopp, now the chief engineer of Crawford Broadcasting Denver, recalls that it was time-consuming. If the weather was bad and a host could not make it into the studio for the show, it was either done over the phone, which sounded bad, or not done at all.

"Then came Tieline's Bridge-IT. We migrated over to this unit in 2013. This, along with their iPhone adapter, changed everything."

She said the host could easily do the show over WiFi or cellular data with their phone. With the purchase of some external equipment, a host could set up a home studio or be in the field and have guests join them.

"In Denver, several of our hosts have purchased their own Bridge-IT codecs and created for themselves a setup to allow them to broadcast from anywhere without the need for an engineer or a POTS line."

The year 2014 brought the Tieline Genie Distribution codec. Crawford needed a way to send several of its shows to various markets.

"Denver had a Wheatnet-enabled 'Disto' and the other markets had Bridge-ITs. We were able to use a scheduler in our Wheatstone TDM system to set the system up to automatically connect and disconnect from the markets at specific times. Once again, this was a gamechanger. This worked great for us for many years."

In 2022, after having trouble for years with studio-transmitter audio transport equipment, Hopp said the team wanted to make a change. "In this day and age, less is more. Who doesn't like having less equipment to do certain things?"

After looking at the options, they chose Tieline's new Gateway units paired with Bridge-IT XTRAs.

"The Gateway 8s would be perfect for our studio, allowing us to send the audio to eight locations, and we could easily integrate it with our Wheatnet system. We purchased two units,

World Radio History

one as a main, the other as a backup, and we purchased a Gateway 4 for the KLZ transmitter site, and Bridge-IT XTRAs for the other locations."

KLZ is a unique setup in that is where Crawford receives its satellite shows. It also has a second station co-located at the site.

"This would allow us to send multiple feeds to one unit to feed the two separate stations and to send the satellite audio back to the studio. All this works over our LAN, which connects all our transmitter sites to the studios using Cambium Part 101 microwave links."

More Info
https://tieline.com/

> **"We find that the Music Plus algorithm plays well with Xperi's HDC codec, and we love the forward error correction, which helps us ride through the occasional dropped packets."**

This has worked well for a year now. "We find that the Music Plus algorithm plays well with Xperi's HDC codec, and we love the forward error correction, which helps us ride through the occasional dropped packets. The audio sounds great."

In recent months, Hopp said, they have begun monitoring their connections using SNMP.

"If a connection is dropped, the SNMP monitor blows my phone up so I am aware of it. Once in a great while, we'll get a rain squall line right down one of the microwave paths that will cause a deep fade, and I am alerted when that happens and a connection is dropped. As soon as the path comes back up, the Gateway connection is automatically restored; it will keep trying until the cows come home."

Meanwhile they still use their Bridge-IT codecs for remote broadcasts, said Hopp, adding that non-technical hosts find them easy to use.

"We see Tieline remaining as a key part of our broadcast infrastructure," she said, citing its products' reliability and readily available tech support. "Wheatnet and other AoIP integration is a huge asset, as are the many available algorithms and data rates. Being able to connect point-to-point or point-to-multipoint is another great feature, one that makes multiple site (such as main/offsite-aux or main/booster) operation easy."

128 live channels. In one CODEC.

World Radio History

Comrex helps Seacrest create bright spot for kids

Foundation's studios in hospitals use Access NX Rack codecs

The Ryan Seacrest Foundation is a non-profit 501(c)3 that builds broadcast media centers, called Seacrest Studios, in children's hospitals to support patients and their families in their healing by providing them uplifting content.

As Radio World has reported over the years, the numerous Seacrest Studios broadcast closed-circuit programming to their patient rooms and doctors' office towers with therapeutic and kid-friendly content for all ages.

"We'll have special guests come in for interviews, and we'll have the kids themselves come on to play games," said Cayce Long, senior communications specialist for the Seacrest Studio at Monroe Carell Jr. Children's Hospital at Vanderbilt in Nashville.

"It's programming that tries to normalize the situation these kids are in. Our goal is to create a bright spot here in our hospital."

The Seacrest Studio at Monroe Carell Jr. switched from an ISDN codec to an Access NX Rack in November 2022. Access NX Rack is an AoIP codec that works over a variety of IP networks to deliver audio between studio locations.

"Seacrest Foundation makes sure to equip our studios with high-quality products," said Long, "so much so that when other broadcasters come in from local iHeart-affiliated stations, they're jealous of our equipment."

Since installing their new codec, the team has been able to expand its programming options.

"There are 11 other Seacrest Studios in children's pediatric hospitals around the country," Long said. "They each do their own programming for their patients, and we also work together and collaborate on certain shows. For instance, yesterday, we had a show where patients from our hospital played games live on-air with patients from another hospital."

Long and the Seacrest Studio team also use their Access NX Rack to work with local radio stations in Nashville. "Last year, a team from 107.5 The River came to our studio and ran a two-day radiothon live from the hospital," said Long. "We used to use an ISDN product that was much more difficult to use. But they were able to come into the studio and click a link, and they were live on the air immediately."

The greatest challenge to broadcasting from the hospital has been rigorous network security. "There are a lot of networking hoops to jump through, for good reason," said Long. "But we were able to call the Comrex support team and get all the answers we needed to make everything work. Once they helped us implement it, we haven't had a single problem. Since installing the NX Rack, it's opened a lot of doors for what we can provide to our patients and families."

More Info

Find product info at www.comrex.com. For Seacrest Studios visit www.ryanseacrest-foundation.org/locations.

World Radio History

Tech Update

Telos Pulls Into iPort

The Telos iPort High-Density Multi-Codec Gateway transports multiple channels of stereo, mono and dual-mono audio across IP networks, including private WANs, IP-radio links, and over good quality public internet connections. Telos Alliance calls it "perfect for large-scale distribution of audio to single or multiple locations."

The iPort High Density comes with eight bidirectional stereo codecs with support for up to 64 codecs via additional licenses. It is configurable to run in MPEG or Linear PCM mode. Supported codecs include AAC, AAC-LD, HE-AAC (plus v2), MP2, MP3, and optionally, Enhanced aptX encoding.

It connects to an existing Livewire Network using a single ethernet cable for all I/O. It can also pair with Telos Alliance xNodes via an adequately configured ethernet switch for use as a standalone multi-stream codec.

States Telos: "A pair of iPort High Density connected via a QoS-controlled IP link can send and receive up to 64 channels of bi-directional stereo MPEG audio. Or, use iPorts as a one-way 'push' link to encode and deliver up to 64 channels of broadcast-quality one-way audio to remote destinations. With its ability to send multiple MPEG channels over IP connections, iPort High Density is perfect for audio transmission over VPNs, satellite links, Ethernet radio systems, and telco or ISP-provided IP services such SD-WAN, MPLS or more traditional (legacy) data links such as T1."

The company says iPort is suitable for STLs, network distribution systems and multi-channel links to remote studios.

"Install a QoS-enabled IP link between two studios with Livewire networks, put an iPort High Density at each end, and you can pass audio and GPIO between locations as if they were just next door. Paired with an appropriate streaming server, you can even use it to generate multiple channels of MP3- or AAC-coded audio for streaming, broadcasting to mobile phones, and audio distribution systems."

Info: www.telosalliance.com/contact-sales

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Tech Update

Digigram Highlights Codec and STL Solutions

Digigram offers several products to support remote and STL applications.

Iqoya Talk is an audio-over-IP codec that establishes low-latency connections between multiple sites; the company highlights its intuitive user interface and audio quality.

Digigram also has integrated the Iqoya Connect Cloud into its mix. "It is a powerful, web-based platform for centralized management and monitoring of audio contribution networks," it states. "It provides broadcasters with extensive control over their remote broadcasting infrastructure, ensuring seamless audio routing, real-time monitoring, and incredible stream management." The system is scalable so broadcasters can expand operations as needs evolve.

And Iqoya Serv/link (shown) is a versatile multichannel IP audio codec in a single rack space. It handles from four to 64 stereo (eight to 128 mono) audio input and output channels; it can also simultaneously encode and stream the audio inputs in multiple formats and protocols, decode IP audio streams to the outputs, and transcode IP audio streams.

"This wonderful machine was designed for live remote broadcasting and delivery of audio programs in applications such as multiple STL and SSL links, delivery of multiple web radios to CDNs, multiple program delivery to DVB/cable operators, multiple live remote broadcasts, multiple intercom and commentary channels, and IP audio transcoding," according to Digigram.

Info: www.digigram.com

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

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Server-based, and fed by AES67, the Virtual APT IP Codec solution offers **high availability** and **high-density encoding/decoding** for next generation broadcast performances. Broadcasters can easily centralize and transport a large volume of program signals and scale the solution as they grow.

contact us to learn more :

WORLDCAST SYSTEMS

World Radio History

Yourside supports a railroad broadcast on "Day of the Composer"

AEQ Smartalk cloud-based codec system facilitates a rolling remote

In June of this year, to mark "The Day of the Composer," technology consulting and sales firm Yourside was tasked by film and animation agency Postmen to facilitate a 10-hour "New Music Now-Express" livestream broadcast. It was to be done on board "de Karel," a 1970-vintage Mat'64 railroad train that runs through the Netherlands. The project included live broadcasting, delivery for recording and video editing.

"We didn't want to develop a big technical setup. Having an AEQ Phoenix Venus audio codec in the studio already, we thought it might be a good occasion to try the new Smartalk, a cloud-based audio codec system," said Harm Van Houten of Yourside Broadcast Assistance.

Smartalk is AEQ's new tool for the connection between a guest's PC, tablet or mobile phone and a designated Phoenix audio codec in the studio.

More Info
www.aeq.eu

"We thought that because the Dutch rail network trains have 3G/4G Wi-Fi, the connectivity for using Smartalk should be enough. And that was it.

Above
Several "Day of the Composer" performances took place on "de Karel," including the 10-hour livestream as the train visited various stations.

Right
Streaming from the train.

> **This solution allows us to have high-quality audio and low delay, without the need to have an audio codec or specific applications installed.**

This solution allows us to have high-quality audio and low delay, without the need to have an audio codec or specific applications installed."

The audio from the sound system on the train was mixed and sent to the remote production and broadcast location in Utrecht. Over the same link, IFB was sent back to the train for the talent's in-ear.

"For this audio transmission, we used AEQ's Smartalk on a Mac with an external audio card. The signal was received in Utrecht on the AEQ Phoenix Venus audio codec."

Van Houten said the system worked well and should find future uses. "It will be perfect for when we need to get an immediate interview or report, and the technician does not have to travel and there is no possibility of bringing an audio codec. We're sure that we will use it a lot in the future. We're looking forward to testing the system with the new generation of Pheonix Venus Audio codecs, Venus 4 with IP connectivity and two simultaneous bidirectional stereo transmissions, SIP protocol, as well as Opus algorithms, configuration aid tools and remote control."

You can read about other technical aspects of this unusual remote project at *https://tinyurl.com/rw-yourside*.

World Radio History

Tussas relies on WorldCast for major STL rollout

Broadcast operator conducts a massive renewal of distribution infrastructure

Among its many business operations, telecommunications firm Tusass is the national operator for radio and TV in Greenland.

At the beginning of the year, it began a massive rollout to renew its existing radio program and create a new national program, covering 70 sites in the country.

This massive renewal for transmission and STL programs meant the acquisition of new Ecreso FM transmitters (for a total of 140) as well as acquiring a new network infrastructure for audio over IP transport.

Overseeing the deployment from Tussas was Project Manager Bo Christensen, who told WorldCast he was looking for robustness, all-in-one convenience, and ease of use and maintenance.

The network head end consists of one APT Frame per program including redundancy at each level; first hardware-based with dual power supply and redundant AoIP modules to send audio over IP, as well as with software redundancy thanks to SureStream streaming technology.

An STL antenna site in Qaanaaq in northwestern Greenland. It is one of the northernmost towns in the world.

At each transmitter site, a software-based APT IP Decoder receives the audio from a multicast server. This software IP decoder is hosted by Ecreso AiO series transmitters and is built on the source code of APT IP Codecs. Tussas also relies on WorldCast's NMS platform, Kybio, for supervision of its radio network.

This project was validated in early 2022 and deployment is now complete. It was accompanied with on-site training as well as support for the first installation.

"Tusass now benefits from redundant, highly available STL links with the best audio quality and performances on the market while maintaining a low deployment cost and reduced maintenance needs," WorldCast said in a project summary.

More Info

www.worldcastsystems.com/en/

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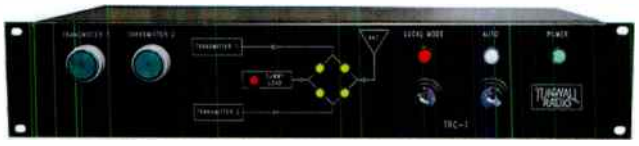

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The Nighttime Beckons
Readers continue to respond to this photo of the tower site of WCTS(AM) in Maplewood, Minn., taken by Mike Pappas and featured in our May 24 issue.

Nice pix of stix

Here are a couple of pictures from sites I oversee in Chicagoland.

The color one is of WERV(FM) in Aurora, Ill., at dusk on a very cold winter's eve. We were leavin' the light on at the transmitter shack!

The second is a creepy shot from our transmitter site for WCCQ(FM) in Joliet, Ill. The day had been hot and stormy and when I changed it to black and white, the picture looked downright post-apocalyptic. Note the moon off to the right. This tower sits on the site of a Scott's Mulch and soil distribution plant in Channahon, Ill.

R. Scott Childers, CBT
Engineer
Alpha Media Chicago

World Radio History

Now in rotation

Hi good folks at RW, attached is a photo of our shortwave transmitting facility, quietly operating in Monticello, Maine, for your "allure of radio" feature.

At 500 kW with an ERP of 20 MW, we are one of the most powerful shortwave stations in the USA. The antenna is an Ampegon, fully rotatable, model 4-4, the only one of its kind in North America.

Thank you for all you do for radio.

Allan & Angela Weiner
WBCQ Radio
Monticello, Maine

"Poppies ... popeeeeez ..."

Here's the KSPN(AM) tower site in the San Fernando Valley area of Los Angeles with our state flower, the California Golden Poppy. Now owned by Good Karma Media, the station was for many years owned by Gene Autry's appropriately named Golden West Broadcasting. The poppies appear briefly every spring, more so in years with lots of rain.

Mike Worrall
Los Angeles

We love your photos!

Images that capture the magic and romance of our industry are wonderful, like the one above looking along the Ohio River, sent by Scott Cason of LaGrange Communications in Kentucky. We welcome yours to *radioworld@futurenet.com*.

World Radio History

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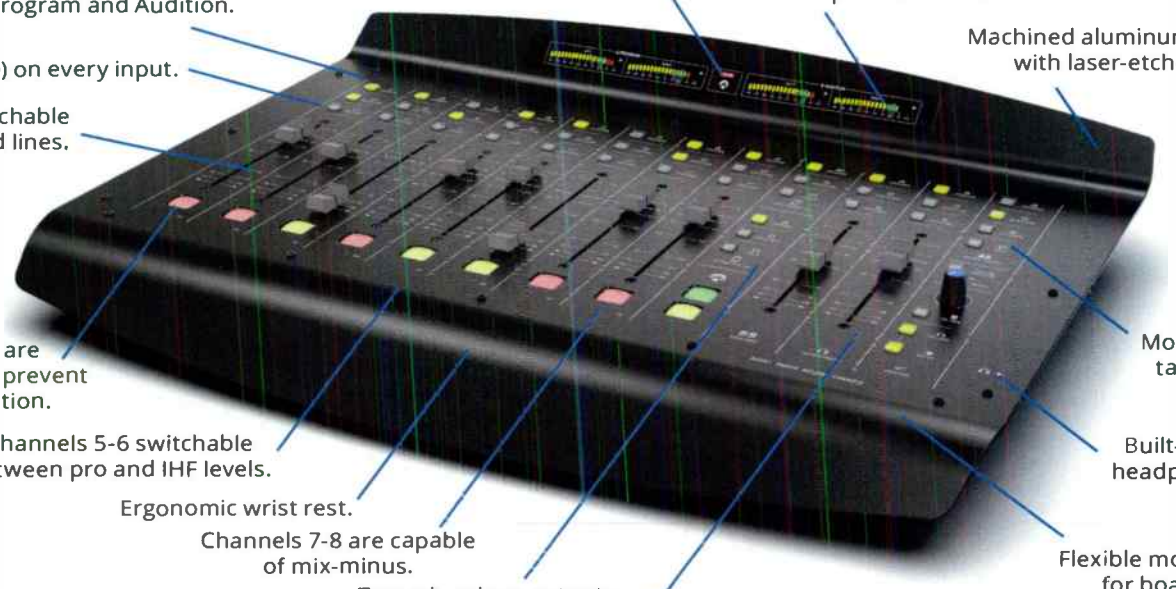

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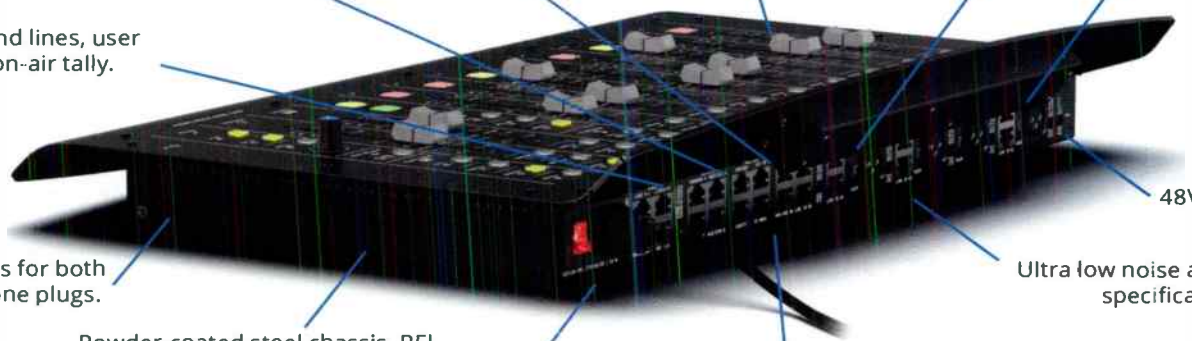

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www.angryaudio.com/rave

World Radio History

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

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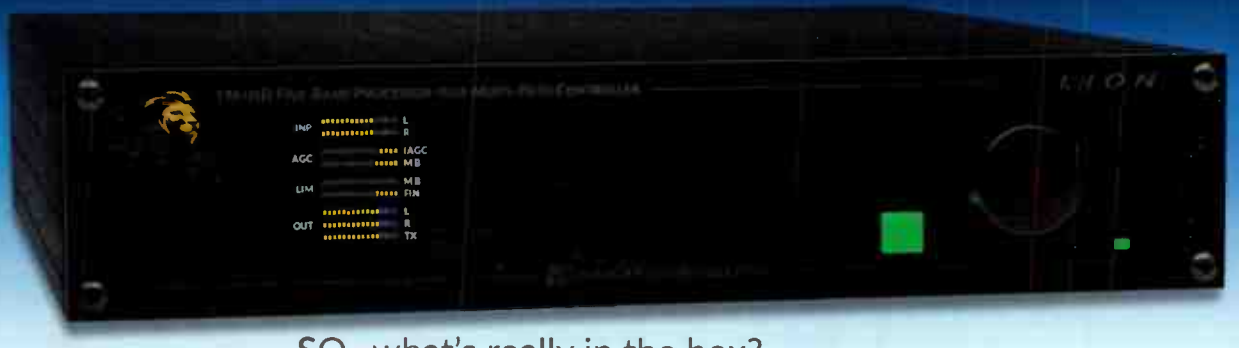

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FM PATH

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HD/STREAM PATH

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