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Radio's Infrastructure Spending Is Slammed by the Pandemic

Major groups slash capital expenditures, ask technical staffs to do more with less

BY RANDY J. STINE

Radio broadcasters in the United States continue to reevaluate capital expenditure budgets amid the COVID-19 pandemic. Cap-ex spending drew down drastically in the first half of this year, according to financial reports from several major commercial broadcast groups.

Expense management has become crucial during the economic downturn caused by the virus, according to industry observers. The impact of the crisis on the radio technology marketplace has been severe, they say; and although equipment manufacturers and vendors expressed some optimism in early summer that spending on equipment and projects would bounce back later in the year, the upbeat signs seemed to have dampened as summer wore on.

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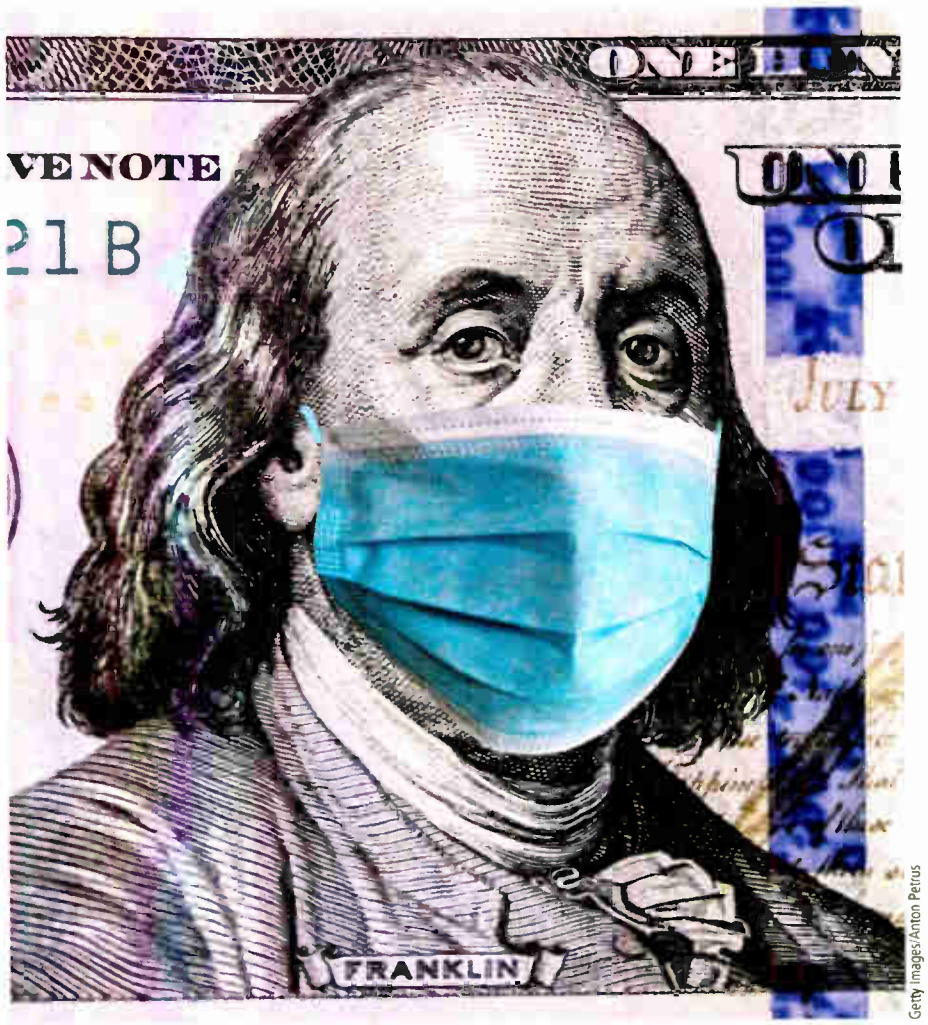

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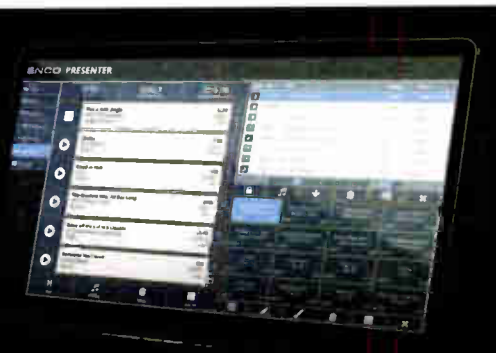

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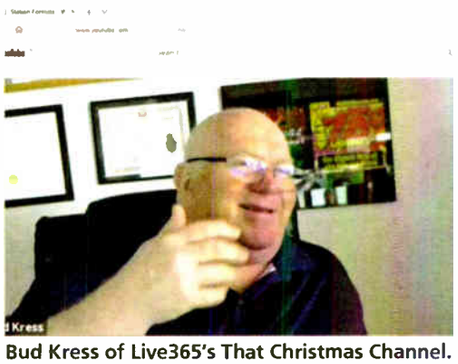
Snippets From "World Audio Day"

Virtual conference explored various aspects of the widening audio realm

BY JAMES CARELESS

Webcasting platform Live365 recently hosted a "World Audio Day 2020" conference, a virtual event about a range of audio topics and trends. Here's a sampling, with info on how to find the full archive online.

- A future of podcasting panel discussion explored impediments to increasing podcast audiences. These include the need for Android smartphone users to install podcasting client software on their handsets before they can access this content, a problem akin to buying a software-based radio with AM reception standard but where FM tuning has to be downloaded.



Bud Kress of Live365's That Christmas Channel.

"When you buy an Android device off the shelf, there's isn't a podcast client on it," said Rob Walch, VP of podcaster relations at Libsyn. Having a native podcasting app matters: "The last big inflection point in podcasting was 2014 when Apple's iOS 8 came out with a native podcast player app. That really helped podcasting get to where it is today."

- Attracting listeners to the Live365 Latin music stream "The Sounds of Brazil" is an ongoing challenge for station Creative Director Scott Adams. Since the songs generally are in Portuguese, selling this content globally based on the lyrics is out.

To solve this marketing problem, Adams promotes his internet radio station using tags such as Smooth Jazz, Latin Jazz and Contemporary Jazz. They give non-Portugese speaking listeners many reasons to tune in.

"It's all about crossover and outreach," Adams said during a station marketing panel. "Everything has to be relatable to the listener … (They) may not be able to relate to songs sung in Portuguese, but they can certainly relate to Rio's sun-kissed beaches."

- Radio station imaging was front and center in a content creation and production libraries session; specifically how effective imaging can create an alluring station persona in the listeners' minds.

To make this happen, "you need to look at your radio station as its own person," said Matthew Anderson, director of custom imaging at Benztown. "The voiceover that you choose and the creative copy that you write is the voice of that person," he explained. "So who do you want to be?"

- The year-round popularity of seasonal music was explored in a station formats session, as explained by panellist Bud Kress. He is the owner/operator of Live365's "That Christmas Channel," which plays holiday music 24/7.

"We're constantly playing the biggest hits of Christmas and more," said Kress. Even in the "off season" between January through August, "we're still maintaining a nice audience. There are people listening to Christmas all year long."

- RealNetworks Founder Paul Glaser mused on the music industry's inability to find common ground on content streaming, and the money-making opportunities they missed as a result, during a discussion of the history of internet radio. "The music industry resembles nothing more than a circular firing squad in terms of how it works," Glaser said. "What we saw play out over a 15-year process was a very Darwinian process."

The event was held not long after the pandemic hit the United States hard. Its goal was to bring together voices from internet radio and AM/FM broadcasting, podcasting, monetization to legality, programming and marketing.

Live365 said thousands of people tuned in. Justin Ruoff, vice president of operations, said, "We set out to try to plan a full teleconference in just three weeks time due to the circumstances going on right now in the world. To see dozens of organizations and industry leaders, as well as thousands of webcasters and fans, pull together for an amazing day of information sharing goes to show just how special this community is."

Rob Walch of Libsyn.

The panel discussions are available online for free; go to YouTube and search for "World Audio Day." There you can find the content broken down into topics such as Content Creation & Production Libraries; Station Formats; Station Marketing; History of Internet Radio; Ad Tech; and SoundExchange Overview.

World Radio History

Urban One Disappointed by FCC Action on AM Multicasts

Liggins: "Everyone says they want to save AM; now here is a chance to do it"

FROM THE EDITOR

BY PAUL McLANE

An AM radio station in Indianapolis has received permission to operate experimentally using all-digital transmission; it would be the second such full-time test station in the United States.

But the experiment may never take place.

Station owner Urban One is not happy that the Federal Communications Commission approved only part of its request. The commission did not allow the company to rebroadcast digital multicasts of the AM test station over two analog FM translators.

In response, Urban One CEO Alfred Liggins III told me in July, "AM radio is at best beyond challenged, and at worst headed towards extinction. Any digital applications that improve coverage and the ability to deliver multiple streams of content are critical to AM's survival."

He said the fact that FM digital allows the ability to broadcast multiple sources of content over translators has been a key use for FM digital. "That ability is even more critical to the survival of the AM spectrum. I hope the FCC will allow this key use of AM digital technology in our quest for experimental authority. Everyone says they want to save AM; now here is a chance to do it."

THE STORY TIL NOW

The station in question is WTLC in Indianapolis, located in Nielsen market #25.

Urban One asked for permission to use the MA3 mode of HD Radio to test all-digital operation there. (FCC rules currently do not allow all-digital operation on either AM or FM, though the commission has been considering lifting that restriction for AM stations, and many in the broadcast industry have expressed support of that idea including the National Association of Broadcasters.)

To continue serving local listeners during its test, WTLC proposed that two FM translators associated with WTLC would continue to operate in analog — an important consideration since all-digital testing means listeners with analog receivers would no longer be able to hear the AM signal.

CEO Alfred C. Liggins III

The FCC accepted all of the above and it notified Urban One of that in a letter in May.

However, it did not approve the company's request that multicast channels of the AM test signal be rebroadcast over those two FM translators. And therein lies the rub.

Urban One had hoped that the project would be a

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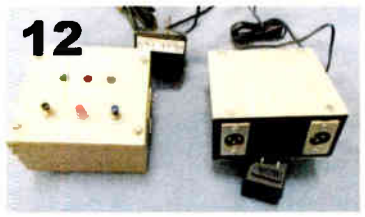

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logical "next step" to the work done at Hubbard's WWFD in Maryland. The potential use of multicast channels in AM digital has taken on a higher profile since WWFD tested an HD-2 multicast in December, as Radio World has reported.

"WTLC will introduce an HD Radio MA3 multicast feature into a top 50 Nielsen radio market with consequent publicity to gauge listener interest in the purchase of AM multicast receivers," Urban One wrote in its application.

"As technology is fast-moving and radio receivers for 2022 and beyond are now being designed, new AM receivers incorporating the reception of HD Radio MA3 multicast subchannels may depend upon concrete indications from the FCC that it will authorize this multicast mode, and from broadcasters that they will utilize this multicast capability."

But the FCC staff apparently didn't buy into this idea, at least not yet — perhaps feeling that the question of allowing all-digital AM stations and the question of using such stations for a new kind of translator "play" deserve separate consideration. This is speculation because the commission's only comment on the matter was brief: "At this point we are not authorizing the rebroadcast of the (second) multicast channel on an FM translator station," wrote James Bradshaw, senior deputy chief of the Audio Division, in the same letter.

Urban One attorney John Garziglia of Womble Bond Dickinson told me that the company had engaged in "several in-depth discussions" with Audio Division officials ahead of the filing and explained its intentions, including the use of translators to rebroadcast multicast channels in the same way that FM stations can. He said Audio Division officials had "expressed optimism" that the request would be favorably received.

Only after the filing was made, he said, did the staff say it would not allow the AM multicast channel to be carried on an FM translator. Garziglia said Urban One would not would have asked in the first place had it not received informal assurances that the proposal as written would be favorably considered.

> **Any digital applications** that improve coverage and the ability to deliver multiple streams of content are critical to AM's survival.
>
> — Alfred Liggins III

He also said that Urban One subsequently told the FCC it would not proceed — "it simply does not work for WTLC as a business matter" — but that the commission issued its partial approval anyway.

Radio World invited comment from the FCC but did not receive one in reply.

"CHICKEN AND EGG"

Garziglia expanded on Urban One's thinking in his comments to Radio World: "Unlike HD sub-channels, which are a reality, the HD Radio digital multicast channel chipset is being just being introduced. Going forward, it will be a 'chicken or egg' situation — multicast capability will not be included by consumer receiver manufacturers because they are not sure that consumers want this feature, and consumers will not ask for this feature because they are unaware that it exists."

Urban One, he said, "was trying to take a lead, consistent with its business responsibilities, to expend the funds and efforts to introduce AM HD Radio digital multicast programming to the public, and to enable receiver testing of the AM MA3 multicast technology by manufacturers."

Without the ability to simulcast the AM HD Radio digital multicast programming on an FM translator, he said, "The public will never know that the AM digital multicast programming is there. In addition, the purpose of introducing AM multicast capabilities to the public so that the public will demand such receivers is lost."

He said the company saw a business benefit of serving the public with two AM multicast streams of programming; but without the multicast carriage, "it would be a losing business proposition, a consideration of which is often overlooked by the FCC but is vitally important to radio broadcasters."

He concluded, "Unfortunately, at least at this point, the FCC is an obstruction,

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CAP-EX

(continued from page 1)

Several former engineering executives said broadcasters are being forced to question and justify each line item in their budgets, from the bottom up, as their employers seek to mitigate the economic impact of COVID-19. Most groups froze capital expenditures or at least prioritized critical projects that needed funding.

iHeartMedia, owner of more than 850 radio stations in 160 markets, among its many other platforms, announced in April it would reduce cap-ex by an expected $80 million for the rest of 2020. As of May, when it reported first quarter earnings, the company was projecting capital expenditures of $75 million to $95 million this year.

Meanwhile, Entercom Communications, owner of approximately 230 stations, said it would trim cap-ex by over 40% due to the pandemic "to a revised range of between $25–$30 million for 2020," according to an April filing with the U.S. Securities and Exchange Commission.

The broadcasters contacted by Radio World were reluctant to discuss current spending plans, but it is clear that broadcasters had taken drastic measures since March, to hold onto cash where necessary.

"These companies are facing severe revenue shrinkage, which means they are being forced to conserve cash. It's not clear when spending might resume," said one person connected with the industry. "The economic crisis caused by the pandemic is driving all business decisions."

Signs of spending cuts are quite evident in public filings by broadcasters. Spanish Broadcasting System said it was "limiting capital expenditures" in its first quarter 2020 filing with the SEC. Cost-cutting at Cumulus Media, which owns 424 stations, included a cut of 40% in capital expenditures the remainder of this year, according to a press release from the broadcaster. Townsquare Media, which has 321 radio stations in 67 markets, has "reduced all planned capital expenditures," according to a statement from CEO Bill Wilson.

"PARED TO THE BONE"

Former engineering executive Milford Smith, now principal with Smith, Khanna and Guil Inc., said broadcast groups are likely focusing on "compliance issues" and any truly critical projects.

"Close behind are any projects or issues involving reliability — on air or online. This includes PPM systems, transmission systems and interconnection systems. Beyond these core items, most everything else can be considered optional."

Smith said that "an old automation system and console that has been growing whiskers" will likely have to make it through another year before being replaced.

Equally concerning are the seemingly endless rounds of staff reductions, Smith said.

"Many stations and companies have pared staff to the bone. They are severely short-staffed. A multi-station cluster in a competitive market can only be expected to operate reliably and effectively with adequate technical expertise," Smith said.

Bert Goldman, president of Goldman Engineering Management, said radio businesses have been hit hard.

"Loss of revenue has impacted all facets of station operations. And there is a drastic change in technical priorities as staff is moved off-premises and as many operations as possible go remote," Goldman said.

Broadcasters were smart to freeze non-critical spending, both operating and capital, until the long-term situation is clearer, Goldman said.

"Specifically, until the impact to the business is determined, all capital spending, unless a project was actively in progress and could not be stopped, would probably be frozen. Any capital funds unspent would likely be immediately reallocated to emergency capital costs associated with pandemic response, such as updating playout systems, computers for home operation and remote equipment. Operationally, internet access would likely need upgrading at staff homes," he said.

Goldman said many broadcasters had to move fast to replace older, less-flexible on-air playout systems so that operations could continue remotely.

"It is likely that emergency capital was spent during the crisis, which will impact available capital moving forward," he said.

Gary Kline, a technical broadcast consultant and former DOE at Cumulus, said it can be hard for managers to find a consensus on which projects are critical versus those that can be paused.

"A DOE is almost surely to be inundated with feedback from the markets disagreeing with their decisions. What an engineering manager thinks is not mission-critical may be seen by the local market as critical," he said. "And as the cap-ex budget contracts, the tougher the decisions are."

Kline said good communication between executive leadership and the director of engineering becomes more important than ever in this situation. While senior leaders must provide engineering with updated guidelines for spending and how to prioritize, a DOE should be able to give management his or her feedback; the discussion should be collaborative and ongoing.

"UNPREDICTABLE"

Equipment suppliers are being realistic about the situation, said Bob Cauthen, president of equipment vendor SCMS Inc.

"Budgets and projects have definitely been cut and postponed. Some projects have been totally cancelled. I think all broadcast dealers and manufacturers have felt the pinch during the second quarter," Cauthen said this summer. "It has been felt across the board in small, medium and major markets."

Cauthen said trying to predict when things return to normal is like trying to figure out when the COVID-19 pandemic will end.

"It truly is unpredictable at this point, with all the variables. My personal guess is it will gradually improve, and broadcast will have a good fourth quarter, especially with political ad income peaking," he said.

The pandemic has caused something of a business boom for companies selling remote broadcasting equipment.

"I suspect that Comrex is one of the few broadcast equipment manufacturers to have not been adversely affected by the pandemic," said Chris Crump, senior director of sales and marketing at that company. "We had some logistical challenges in March and April as we tried to come to grips with the effects of COVID-19 and how best to keep our employees and their families safe. All the while, we had to find a way to increase our production output to keep up with orders."

Crump said there are still a lot of unknowns regarding parts supplies, which have been exacerbated by major shipping carriers that no longer guarantee delivery times.

"Luckily our team has been able to work around extended parts lead times caused by this global crisis so we can meet our shipping requirements," he said.

> **There is a drastic change** in technical priorities as staff is moved off-premises and as many operations as possible go remote.
>
> — Bert Goldman, Goldman Engineering Management

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Summer of Products

2WCOM DEBUTS HDR-CC

Capture client facilitates delivery of additional HD Radio channels

2wcom's latest is the HDR-CC, an HD Radio "capture client" for the delivery of additional HD Radio channels.

The company says users can set up the importer IP address and directly connect audio to the small box's XLR connectors.

The box is able to accept one digital or analog stereo audio channel and provide it to an importer. The unit also sends the compressed audio via IP using an HD Radio codec. The HDR-CC can thus be located in a different location than the importer. Due to HDR-CC's sound processing capabilities, the loudness is almost the same as on the main program.

In addition, 2wcom says the unit simplifies audio switching for emergency alerts. Utilizing a new feature that Xperi has implemented in Generation 4 importers, a single HDR-CC is able to provide the entire emergency alert for all supplemental channels on the transmitter.

The company points out that the only setup required is an AES audio connection to the capture client and a GPI to trigger the alarm. When the alarm is triggered the HDR-CC logs into the importer and replaces all supplemental channels (HD2–HD4) with the alarm program. After the GPI is released the HDR-CC logs out and the importer continues with normal operation.

Info: www.2wcom.com

AM MULTICASTS

(continued from page 5)

rather than a forward-looking champion of the radio listening public" in failing to approve the authority.

Garziglia told me in July that Urban One intended to seek an audience with Chairman Ajit Pai in the hope that his office can encourage the Audio Division "to take the wider policy view" — that the introduction of AM digital multicast broadcasts carried by FM translators "will be good for the public, good for the future of radio broadcasting, and good for the FCC in its encouragement of diverse programming."

An engineer with a keen interest in all this is Dave Kolesar, who runs the first digital AM test station, Hubbard station WWFD. "I think the FCC won't grant a translator to an HD2 operating under experimental authority," he told me. "If the MA3 NPRM is approved, and an HD2 is transmitted as part of regular, licensed operation, then the FCC will grant a translator. That's just my gut feeling; I should say that I don't have any 'inside' perspective."

Kolesar speculated that the FCC might be waiting for a receiver on the market that can pick up an AM HD2. "That way, it's truly a broadcast, and a cross-service translator could be used to promote that."

Urban One station WTLC is a Class B AM on 1310 kHz with 5 kilowatts daytime and 1 kW nighttime directional. Branded "AM 1310 The Light," its format is inspiration and praise. The test would be in cooperation with Xperi and Nautel, both of which supported the request and are also involved in the first experimental station, Hubbard's WWFD in Frederick, Md.

The testing would use a Nautel NX5 transmitter with NX HD upgrade, Exgine and HDMC+, operating in Xperi's HD Radio MA3 all-digital mode broadcasting both a digital main channel and a digital multicast channel.

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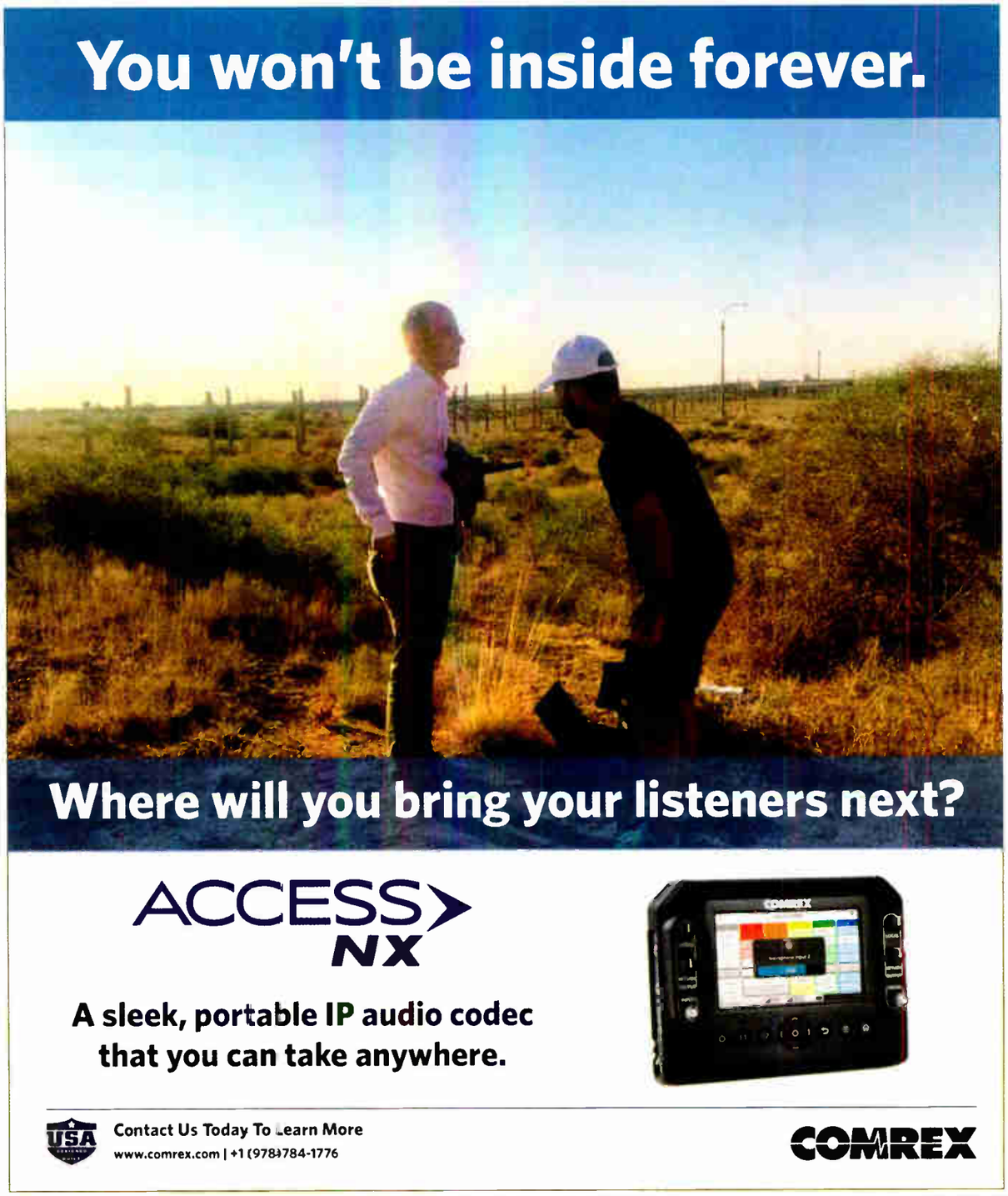

World Radio History

WWV/WWVH Stand Ready to Fight Global Chaos

BY JAMES CARELESS

The author wrote in July about "Why WWV and WWVH Still Matter." Read that article at www.radioworld.com, *keyword WWV.*

It may seem improbable that two radio stations that announce the time could end up being world-saving superheroes. But one day Colorado shortwave station WWV and its sister station WWVH in Hawaii may do just that.

The reason: If a massive solar coronal mass ejection from the sun ever supercharges the earth's ionosphere, the resulting power surge would overload satellites and ground-based digital communications systems. The internet would be just one of the casualties: This planet's unshielded electronics could be fried.

Actually, the right term is not "if" but "when." In 1859, a massive solar flare hit the atmosphere; it was named the Carrington Event after UK astronomer Richard Carrington, who spotted the flare and deduced what was coming. The resulting nighttime auroras were so bright that sleeping miners in the Rocky Mountains woke up and made breakfast.

At the time, telegraph networks in North America and Europe were the only electronics in widespread use, and the Carrington Event flare definitely affected them. The current induced into the telegraph wires was so strong that some operators received serious shocks. Others discovered that they could send and receive Morse Code over the network, without having to connect power sources to it.

In our modern world, a Carrington Event-sized solar storm "could lead to power loss for a period of weeks or more," according to a 2013 analysis prepared by Lloyd's of London and Atmospheric and Environmental Research.

"This would cause major disruption to transport, food supplies, emergency and hospital services ... It is also likely that financial markets (especially as the financial sector is generally concentrated in the areas most at risk i.e. the northeast of the U.S.) could be significantly disrupted by a severe space weather event."

When the next Carrington Event-sized solar storm hits the Earth, WWV and WWVH will step up to quell the chaos.

The reason: Not only do WWV and WWVH's powerful shortwave radio signals easily cover North America and much of the world, but the facility has a generous supply of diesel standby generators, screened/shielded facilities to protect equipment from power surges and a robust, non-digital transmission infrastructure.

"Quite frankly, much of our equipment is tube-based analog technology," said Glenn Nelson, an electronics technician at WWV and sister time code station WWVB. "This mean it is less vulnerable to power surges damage than digital equipment."

WITH ASSISTANCE FROM MARS

WWV and WWVH won't be the only superheroes working to bring order back to a world blasted by a solar storm (or a man-made electromagnetic pulse; either will do). The stations will be joined in their efforts by their partners in the Department of Defense Military Auxiliary Radio System. MARS members are amateur radio volunteers trained and certified to operate on DOD frequencies using military messaging protocols in order to communicate with the U.S. military.

MARS was established by DOD back in 1925, to enlist the help of hams during man-made and natural disasters, and to serve as trained pool of radio operators to support the military.

"It is always difficult to coordinate rescue officials and volunteers when there is a widespread communications breakdown, especially on the scale of a Carrington Event," said Paul English, who runs the U.S. Army's MARS program. "Hams will play a vital role in such emergencies gathering situational awareness information for the military on a county level," he told Radio World. "They'll tell us what's the status of electricity, water and transportation, and we'll compile that information on a national level to help guide the nation's response."

Using their powerful transmissions and broad coverage, WWV/WWVH will serve as central information hubs for MARS team members. The team will be packed with hams from across the United State, "who use their own equipment and donate their time to provide this service," said amateur radio operator Cal Zethmayr (ham callsign W4GMH). WWV and WWVH's broadcast will keep everyone on the same page and working together despite the chaos.

GETTING READY FOR DISASTER

Mindful that solar storms can strike at any time, DOD holds MARS exercises on a regular basis. Since April 19, 2019, WWV/WWVH have been a part of this process, by announcing current and upcoming MARS exercises during their 24/7 time broadcasts.

"The WWV and WWVH announcements will provide information to Amateur Radio participants regarding the purpose, dates, times and locations of the exercises and other information," states the WWV web site at *www.nist.gov/pml/time-and-frequency-division/radio-stations/wwv.*

"WWV will air MARS announcements on the 10th minute of each hour, and WWVH will use the 50th minute. The announcements will air for about two weeks, prior to and during each exercise."

It is impossible to say when the next Carrington Event-level solar storm may hit our planet. It could be hundreds of years from now; it could be tomorrow. But when this storm does strike, the staff at WWV/WWVH and their MARS team members will be there to help quell the chaos. They'll be real-life superheroes aiding the U.S. government in finding out which Americans urgently need help, so that it can be sent as soon as possible.

"When you look at today's world where we are completely dependent on computer-controlled electronics in all aspects of our lives, a Carrington Event-sized coronal mass ejection could be devastating," said English. "WWV, WWVH, and MARS will help us cope in such emergencies."

Information about upcoming MARS exercises can be found at *www.dodmars.org.*

Website of the Army MARS program. The Air Force has one too.

It is always difficult to coordinate rescue officials and volunteers when there is a widespread communications breakdown, especially on the scale of a Carrington Event.

— Paul English, U.S. Army MARS program

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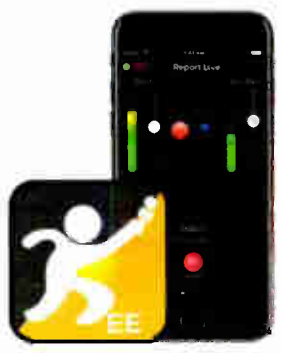

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World Radio History

Linda Baun Will Retire From Wisconsin Association

The "heart and soul" of the Broadcasters Clinic is longtime advocate for engineers

BY PAUL McLANE

The Wisconsin Broadcasters Association will soon lose its Number 2 executive — and its Number 1 advocate for broadcast engineers.

I realize that the latter title doesn't actually exist on her résumé. But anyone who knows Linda Baun won't dispute it.

Linda will leave the WBA and its foundation in September, taking early retirement and moving to Indiana to be closer to family.

In sharing this news with colleagues, she led an email with the quote, "Life happens when you're planning something else." She wrote to her boss Michelle Vetterkind, the president/CEO of the association, that "life-changing issues necessitate that I vacate my position."

She has been with the association since 2006, involved in all manner of its operations including its Awards for Excellence program and Awards Gala, Student Seminar, winter and summer conferences, and numerous other events and training sessions. She coordinated the association's EEO Assistance Action Plan, ran numerous committees and handled administration of the WBA office.

But outside of Wisconsin — and maybe inside the state too — she probably is best known for her work in helping to run the Broadcasters Clinic. That regional engineering-focused event existed long before she arrived but she is one of the people who has worked hardest to keep it relevant while many other regional events have dwindled. Clinic Committee Chair Kent Aschenbrenner calls her "the heart and soul" of that event.

Linda established her national engineering profile while working for 15 years for the Society of Broadcast Engineers; she did great work as its certification director at a time of significant growth in SBE's certification programs.

She also is the spouse of Terry Baun, the retired broadcast engineer whose honors include the SBE Lifetime Achievement and Broadcast Engineer of the Year Awards, and whose dedication to the education and support of engineers she shares.

"Terry instilled in me the love for the engineers," Linda told me. When she had the opportunity to become SBE certification director, he encouraged her to "run it like it was my company." And his influence in her professional career did not stop there; Terry sent Linda's résumé to the WBA when the association was looking for a vice president. "Did I mention he didn't share that with me, before he did this deed?"

Linda Baun

Michelle Vetterkind said Linda "earned a well-deserved reputation for always going above and beyond what our members expected of her and the extra special personal touches she added to every event."

I can speak from my own experience that the phrase "personal touch" is exactly right in describing Linda.

In the WBA press release, Linda is quoted saying, "Who knew that working at a college station, a small-town radio station doing farm reports and logs, could lead me to a Christian station, the Society of Broadcast Engineers, and ultimately to the WBA?"

So I add my appreciation for Linda Baun. The industry is better for her and her work. Congratulations, Linda — don't forget to bring an ample supply of cheese curds with you.

PS: Linda Baun is often heard to end her phone calls with "I just want to do the best job I can for our broadcast engineers." I wrote the preceding sentence last evening, intending to use it in the text above. A few hours afterwards, I received an email from her answering another question, in which she wrote: "Being a part of the SBE certification committee and the SBE was truly a wonderful experience. ENGINEERS are the BEST."

See what I mean?

Paul McLane is the editor in chief of Radio World.

Summer of Products

VISO BOOTH VOCAL SHIELD DEBUTS FROM GIK ACOUSTICS

Tool for the new work-from-home regimen

The GIK Acoustics VISO Booth aims to provide vocal isolation for broadcasters, recordists, voice actors, podcasters and others who need portable or stowable acoustic treatment.

While a full-fledged vocal booth provides an ideal environment for vocal recording, the company says, a vocal shield is a lower-cost option that can provide audible improvements in situations where budgets, portability and production space are significant concerns.

The VISO Booth uses the technology used in the company's room treatments, helping to control the low-mid frequencies to reduce boominess or muddiness in recordings. The unit sports an aesthetic pattern similar to the company's Alpha 1D in blonde wood veneer, with GIK's black fabric underneath.

Designed with portability in mind, the VISO Booth can be installed on a 5/8-inch straight microphone stand or placed on a desktop for use without a stand. Weighing 10 pounds, GIK Acoustic's VISO Booth consists of two 16.5 inches x 11.5 inches x 1.5 inches panels joined to form a large, 162-inch triangular area, creating a shielded working space for performers to move within that the company claims is larger than most sizes attainable with other vocal shields.

Info: www.gikacoustics.com

APPLE LOGIC PRO X GETS MASSIVE UPDATE WITH V10.5

Update of Apple's flagship recording software focuses on creative tools for electronic music production

Taking aim at pros working in electronic music production, Apple recently released a major update to Logic Pro X, packaging the app with a "professional" version of Live Loops, new sampling features and both new and revamped beatmaking tools. Logic Pro X 10.5 is free for existing users, and otherwise runs $199 on the Mac App Store.

Primary among the updates is Live Loops, which lets users create music in nonlinear ways. Loops, samples and recordings can be arranged on a musical grid, then used to try out and build musical ideas. Those in turn can be captured on Logic's timeline, where they can be further developed using typical production methods. Remix FX brings a selection of effects to Live Loops — gates, filters and more — which can be used in real time over individual tracks or an entire song.

Along with this, the updated Logic Remote iOS app can trigger sounds in Live Loops; users can also use the app for browsing and adding loops, or applying Remix FX to a session.

Sampler updates the EXS24 plug-in with new sound-shaping controls, but is still backwards-compatible. Hand-in-hand with that is Quick Sampler which lets users add or record a sound, edit it into shape and then use it as a playable instrument. Sounds for Quick Sampler can be taken from Logic, voice memos recorded on an iPhone or recorded directly into the app.

Info: www.apple.com/logic-pro

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World Radio History

Build This XLR Cable Tester

Use it to test for proper wiring and polarity

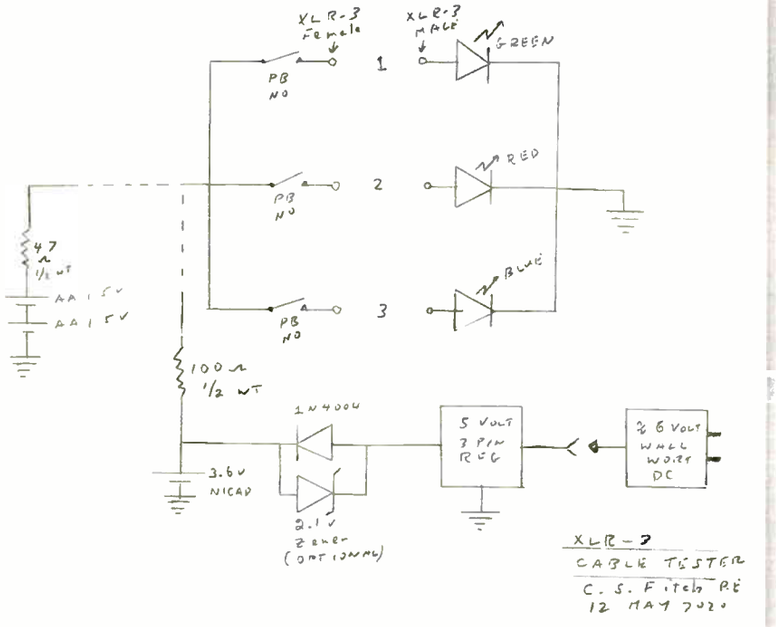
WORKBENCH

by John Bisset
Email Workbench tips to johnpbisset@gmail.com

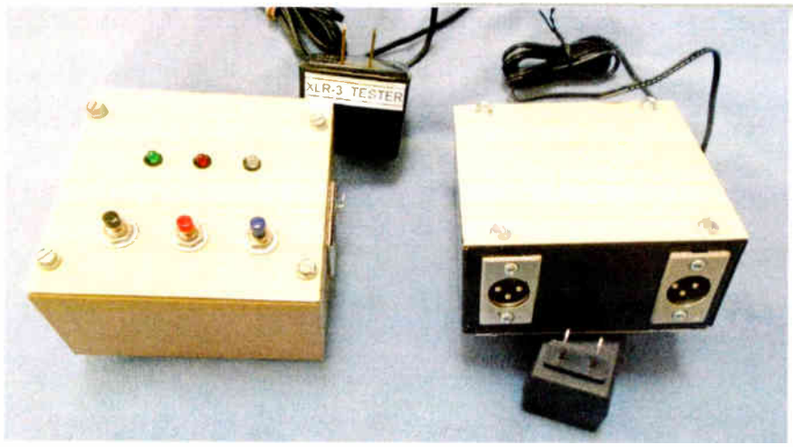
There is at least one small upside to COVID-19, which is that we have more time to catch up on things around the station or workshop. Empty studios give the engineer free rein for both cleaning and maintenance. Funny how there's still so much to do!

Professional Engineer (P. E.) Buc Fitch has come up with a great cable test kit for the entry-level engineer, intern or assistant to build. It's fun for more seasoned engineers too. After all, why should the new guy or gal have all the fun?

Buc's "kit" is, as he puts it, is an "uber-simple XLR-3 cable tester." Its purpose is to test XLR-connectorized cables for proper wiring and polarity. We've simplified the circuit description; hand the rest of this article to your intern and let them figure it out.



Buc's sketch. This is a nice construction project for an entry-level engineer.



Buc's completed XLR cable tester.

First, let's talk about XLR polarity. It's important!

A few years ago, I was visiting a customer who was having problems wiring up a mic cable. The internet said Pin 1 was hot! The internet is a great tool only when it's used properly. Standard mic wiring, at least in the United States, is Pin 2 hot or +, Pin 3 is negative or –, and Pin 1 is ground. As with any tool, it must be used properly. So double-check what you read on the internet by visiting several sites or asking a fellow broadcast engineer.

Buc's cable tester will avoid this wiring problem, permitting you to verify all your XLR cables. You may be surprised to see how some cables, especially in your remote kit, are wired!

This project can be assembled with junk box parts; nothing is really critical. Buc's schematic sketch shows power via battery or wall wart, your choice.

In the center of the schematic are the chassis-mounted XLR male and female connectors. One thing to remind the intern is that the pins flip or "reverse" from one connector (female) to the other connector (male). Be sure to check the pin numbers on each connector before soldering.

The three pushbutton switches are simple N.O. (normally open) chassis mount switches. The LEDs are not critical; Buc chose red, green and blue. LED current is limited by either the 100 ohm or 47 ohm half-watt resistors, depending on the power supply used.

As for the power supply, the simplest is shown to the left: two AA batteries mounted in a simple two-battery holder. (AA batteries provide 1.5 VDC each, and since they are wired in series, the total voltage is _____?)

For the wall wart supply, the approximately 6 VDC wall wart plugs into a jack on the side of the chassis box, and feeds a 5 VDC three-pin regulator. Its output connects to a 1N4004 diode in parallel with an optional 2.1V Zener diode. Again, watch the polarity!

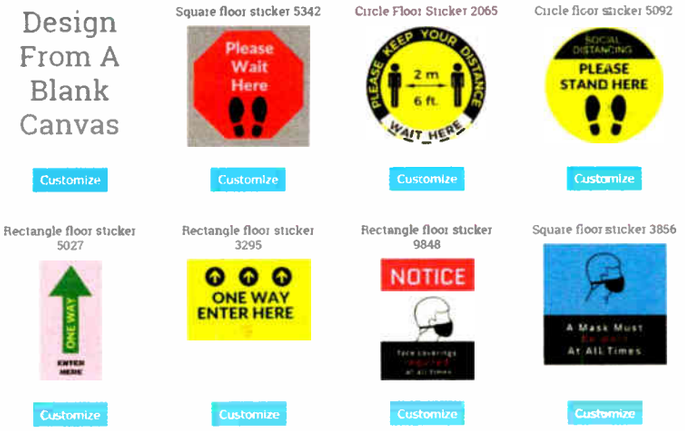
> The internet said that Pin 1 was hot! The web is a great tool only when used properly.

A nice feature that Buc added to this box is the 3.6 Volt NiCad battery, which is rechargeable and permits operation without the unit being connected to an AC power source. The NiCad will be charged when the wall wart is plugged in.

By the way, the longer horizontal line on the battery symbol is the "positive" side of the battery.

Construction is not critical and any small chassis box will work. Buc's finished product is shown in Fig. 2. If you build one of these, send in a high-resolu-

World Radio History



The website of New York Printing Solutions has large-format floor stickers and wall decals that will come in handy when staff return to the building.

A nice feature is the 3.6 Volt NiCad battery, which is rechargeable and permits operation without connection to an AC power source.

tion picture to *johnpbisset@gmail.com*.

(Two 1.5V batteries connected in series gives you 3 Volts, did you get it right?)

Eventually many of us will return to our radio stations and offices. New York Printing Solutions is providing a variety of large-format printed floor stickers and wall decals that you can use to remind employees about social distancing, wearing masks and other customized messages.

These are full-color vinyl indoor/outdoor, scuff-resistant decals. They are removable and leave no residue. They can be customized with your station logo.

You know that I like to see engineers work with other department heads; well, here's an idea: Print a bunch of these up with your station logo and distribute to advertisers that serve the general public.

The company prints everything from business cards to foam-core posters, and finding the COVID-19 stickers took a little navigation. Visit *www.nyprintingsolutions.com/floorstickers/*.

I've had several email discussions with Todd Callahan at KUT Radio in Austin, Texas. Todd was looking for some kind of cover to protect his AoIP surfaces from both dust and dirt, as well as cleaning compounds that may be used to disinfect studios.

A natural choice is a custom-made furniture slip-cover. A great idea, but when he started pricing them ... whoa, expensive!

Here's a better choice: A clear plastic shower curtain can be trimmed to fit pretty much any size console or surface. The edges can be held in place with strips of ScotchBlue Original Multi-Surface Painters Tape. The tape will keep the edges secure for up to two weeks and can be removed without leaving residue.

John Bisset has spent over 50 years in the broadcasting industry and is still learning. He handles western U.S. radio sales for the Telos Alliance. He holds CPBE certification with the Society of Broadcast Engineers and is a past recipient of the SBE's Educator of the Year Award.

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

World Radio History

Continuing our sampler of new and recent offerings that we started last month. Got a new product announcement? Send it to us at ***radioworld@futurenet.com***.

MOSELEY STEPS INTO THE NEXT GENERATION

NX-GEN-T offers all-in-one indoor-outdoor STL/TSL with features

Moseley describes the NX-GEN-T as an economical advanced microwave STL/TSL software-defined frequency-agile digital radio for 6 GHz to 38 GHz bands.

It offers T1/E1, Gigabit Ethernet, 2 x OC3, DS3, NxDS3, add/drop MUX, OC3 interfaces. Modulation includes 4QAM, 16QAM, 32QAM, 64QAM, 128QAM, conforming to channel bandwidth and payload requirements along with ATPC, XPIC, Adaptive Modulation.

The data rate is 155 Mbps to maximize payload capacity. A web browser interface provides for remote operation.

This carrier class product transports a programmable mix of native TDM and IP traffic separately, ensuring a seamless transition from legacy TDM networks to an all-IP network, the company says. An onboard "Add and Drop" multiplexer allows DS3/28DS1, SDH/63E1, add/drop operation. A QoS/Ethernet features deliver secure LAN/WLAN networks.

It is at home indoor or outdoor with an integrated package that can be directly mounted onto a pole or tower. Operational temperature range is –22 F/–30 C to 131 F/55 C.

Info: www.moseleysb.com

AEQ ENTERS THE ATRIUM

IP network console/control surface handles multiple applications

The Atrium is for on-air audio radio and TV production with high-demand operational requirements and workflows. Its X-Core engine can manage up to 1,024 audio channels of local content or AoIP that can be controlled using one or several control surfaces. Each control surface can have more than 90 motorized faders with pages for snapshots or memories.

Atrium offers operation through a set of touchscreens, encoders, indicators and keys, all of which can be preconfigured and dynamically adapt their function to the operational context.

Each Atrium control surface and its individual controls can be customized for most any operation. Thus, classic workflows can be implemented. Users can also configure mix or special workflows with flexible programming of keys to act on the routing of the console, maybe controlling external equipment such as routers, audio codecs, telephony broadcasting systems, broadcast automation, or IP intercom systems.

AEQ says Atrium's configuration and integration within a system is not restricted to the local production center, but reaches outside. It allows connecting with external events and remote production centers, enabling the creation of a multichannel audio network as extensive as the user application may require.

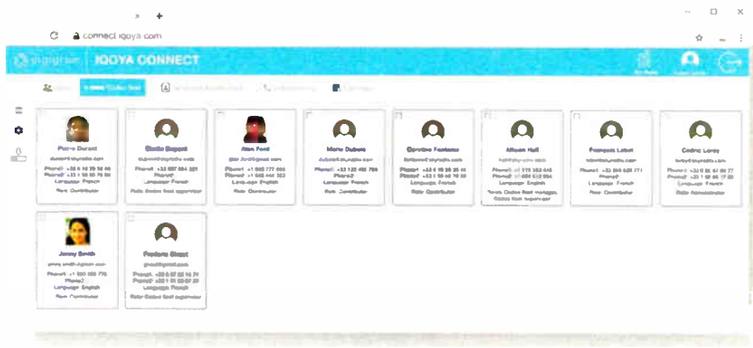
Info: www.aeqbroadcast.com

DIGIGRAM MAKES A CONNECTION

Iqoya Connect links remote contributors and studios

Codec and audio network equipment maker Digigram has a new cloud-based service for linking remote contributors to studios.

Iqoya Connect will link equipment and users along with providing management and monitoring tools for remote codec fleets and the destination studio codecs.



Iqoya Connect provides a unified web platform where the profile and audio settings for a given user, such as a journalist, are saved. Connecting to the studio is a two-step process that is largely automated, Digigram says.

For reception personnel back at the facility, Iqoya Connect uses a global monitoring interface that provides "real-time monitoring of the codec fleet on one screen … as well as direct access to devices in the field if required." Codecs can be programmed and live support enabled as well.

"When designing Iqoya Connect, our goal was to simplify the audio professionals' daily experience while offering more flexibility, security and efficiency," said Xavier Allanic, Digigram's vice president of sales.

Info: www.digigram.com

World Radio History

INOVONICS UPDATES SOFIA LINE

SiteStreamers enhance security and UDP streaming

Inovonics has released new firmware for its Sofia line of SiteStreamer+ remote monitoring receivers. Models 565, 567 and 568 (shown) are the recipients of the free upgrade.

Leading the new items is a restricted login setting for casual users. Inovonics describes this as a "Look but don't touch" setting allowing users to see readings and operate the units but not make any setting changes.

UDP streaming has been added as well, joining analog, AES3, AoIP (AES67) and Dante streaming options. Instructions for firmware updating are at the website.

Info: www.inovonicsbroadcast.com

SAGE UPDATES ENDEC FIRMWARE

Model 3644 update required before Oct. 28

Sage Alerting Systems has released an update to its Model 3644 Digital ENDEC EAS units. The update is required to be installed before Oct. 28.

A company release explains, "A signing certificate used by FEMA to validate CAP alerts will expire on Oct. 28, 2020, at 14:05:29 UTC. Sage has released a free firmware update that you must install to permit your ENDEC to continue to receive EAS CAP alerts from FEMA after that date."

In addition the update has tweaks to the SSL root certificates required for downloading alert audio files from state or county alert originators.

Explanatory release notes can be found at the website. Questions can be sent to *support@sagealertingsystems.com*.

Info: www.sagealertingsystems.com

BLUETOOTH AUDIO GADGET GETS SMART

Angry Audio smartphone interface delivers audio into studio

Smart devices such as smartphones are increasingly being used in broadcasting duties. Angry Audio's Bluetooth Audio Gadget aims to make that interfacing easy.

The BAG can be used on air or in production studios used to play recorded interviews, streams or music into a mixer. It offers bidirectional audio for Skype, FaceTime and phone calls. Sound quality is high courtesy thanks to AAC and aptX codec algorithms.

Audio input comes via a Bluetooth receiver and wired XLR and 3.5 mm-1/8-inch wired inputs. There are balanced XLR stereo outputs along with AES67 digital outputs.

The whole system comes in a heavy-duty steel box.

Info: https://angryaudio.com

World Radio History

LOGITEK PICKS SIX

Six-fader IP/touchscreen console aims at smaller operations

Logitek has introduced the mixIT-6, a six-fader touchscreen-controlled tabletop AoIP audio console/control surface. The mixIT, like its bigger brother, the 12-fader mix-IT, works in conjunction with Logitek's JetStream Mini and JetStream Plus routers as well as the new Jet67 AES67 engine. It is also compatible with Livewire and Ravenna. A Dante option is planned.

As with Logitek's Helix consoles, mixIT-6 provides metering, source selection and scene selects via a 7-inch touchscreens above the faders. Onboard router widgets enable easy selection of transmission, recording or codec feeds. Controls are also provided for talkback to studio/remote, monitor (control room, studio and headphone) and the console's built-in cue speaker. A program meter simplifies operation by providing indicators for "too high/too low," enabling at-a-glance setting of optimum levels.

Logitek President Tag Borland said mixIT-6 and mixIT-12 are suitable solutions for small broadcast operations or smaller studios in a large broadcast complex, with no hidden surprises in the equipment costs.

He added, "Many budget-priced consoles require the purchase of external microphone processors, dynamics processing or even networking options. mixIT includes all of the electronic equipment needed to get on-air, offering an intuitive interface for operators while providing easy networking with other studios."

Info: https://logitekaudio.com

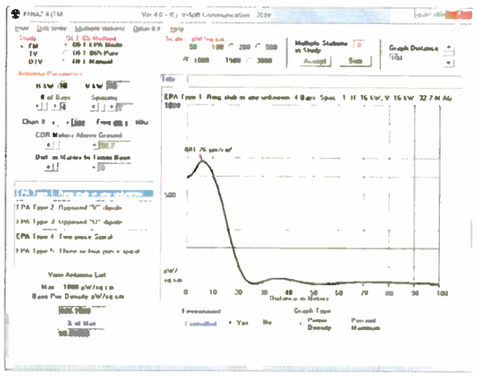
V-SOFT UPDATES RFHAZ

Version 4 of RF hazard software available

V-Soft Communications says that RFHAZ 4 is a serious update of its longstanding RF hazard program.

RFHAZ 4 follows the FCC's current practice of graphically identifying the point of the highest power density at perpendicular distances from the tower. Also, RFHAZ 4 provides for graphical examination of multiple antennas at numerous RF density scales from a minute observation with maximums not exceeding 50 μw/cm² centimeter to a maximum scale level of 3000 μw/cm². The user can choose to display the graph as "Power Density" or as a "Percent Maximum" of the FCC levels for controlled or uncontrolled areas.

For FM calculations, the user can select one of the five new antenna classifications, then, with the inputs of power and antenna height above ground, RFHAZ 4 uses the EPA studied antenna patterns to show power density. These vertical elevation patterns are included with the data files supplied with the program or the user type in and save a manufacturer's pattern from disk file. The user can select RF emissions calculations to consider the effect of a mix of array elements and element spacings (in wavelengths).



In addition to graphs, RFHAZ 4 will print a tabulation of the vertical and horizontal power density levels and, when multiple antennas are used their sums in μw/cm² from the tower to user's selected distances from the base will be shown. The program considers the impact of antenna arrays having from 1–16 bays as well as those with less than full-wave spacings.

RFHAZ 4 also handles LPTV and DTV duties.

Info: www.v-soft.com

RADIAL LAUNCHES BT-PRO V2 STEREO BLUETOOTH DI

Interface is intended for smartphones, tablets and other Bluetooth devices

Radial Engineering has shipped its new BT-Pro V2 Bluetooth DI. The unit is intended for feeding smartphones, tablets and other Bluetooth devices to a PA system, studio interface or powered speaker.

Expected applications include production and project studios, houses of worship, installed sound (gyms, dance studios), live sound, presentations or any environment where providing audio and music playback via Bluetooth connection is desired.

According to Radial, the new V2 edition of the BT-Pro provides "significantly improved audio quality and range." Since many users need to connect multiple devices in a single room, each BT Pro-V2 ships with a unique ID. The new BT-Pro V2 can now be powered by either 48V phantom or a USB-C connection.

Like the original, the BT-Pro V2 includes an output level control with an output range from mic level to line level. It also features mono-sum, pair/reset switches, and a 3.5 mm headphone output. An updated chassis design makes the BT-Pro V2 more durable and extends the Bluetooth connection range.

The BT-Pro V2 has a unique identifier that shows up as a six-digit numerical code, allowing users to connect an iPhone to the PA without having to search through drawers looking for wires.

Info: www.radialeng.com

RUSHWORKS RELEASES RESIDENTIAL PROMPTER KIT

Small desktop teleprompting kit that utilizes a computer's webcam

RUSHWORKS is adding a new tool for at-home production, announcing the release of its Residential Prompter Kit.

The Residential Prompter Kit is a small desktop teleprompting kit that uses a computer webcam to capture home-based presentations. It is meant to serve as a complement to the company's prompter software for Windows applications.

The kit includes a round base, an 18-inch flexible arm, a spring clamp with reflective mirror and a light blocking hood. In addition, the company has also crafted a document that provides four ways to improve the look and sound for at-home teleprompter sessions, which is available for download via RUSHWORKS' website.

The Residential Prompter Kit is available at a base price of $295. With a 12-inch 1920 x 1080 HDMI monitor it runs for $545. A second base, 18-inch extension arm and gimbal-mounting head for a small camcorder is $175.

Info: www.rushworks.tv

World Radio History

DPA LAUNCHES 4097 MICRO SHOTGUN MIC, INTERVIEW KIT

Aimed at journalists, podcasters and others who need to maintain social distancing while also getting the scoop

Designed for audio and visual journalists who have to conduct socially distanced interviews, DPA is pulling out its new shotgun microphone. The DPA 4097 Core micro shotgun microphone is intended for picking up speech at a distance, and has also been made a part of the company's new 4097 Core interview kit.

The kit adds DPA's new 4099 cold shoe mount, which incorporates a 1/4-inch thread; DPA MicroDot cable; transmitter plate; a lightweight telescopic boom pole, to further ensure social distance protocols; and windjammer. Terminating in a MicroDot connection, the 4097 Core micro shotgun can attach directly to a transmitter or be used with the company's 4099 series mounts, clamps and clip; the mic can also be used as a plant mic solution for film and TV production environments.

When used in conjunction with DPA's lightweight MMA-A digital audio interface, the 4097 Core micro shotgun becomes a complete remote recording package. The interface is a two-channel

microphone preamp and A/D converter offering mono, dual and stereo capabilities, and is compatible with iOS devices, Mac or PC computer.

The supercardioid 4097 Core micro shotgun offers a directional pickup pattern, 16 mV sensitivity and is capable of handling high SPLs. It is also IP58 certified for protection against water and dust, due to a water-repellent nanocoating of the cover and housing, hermetically sealing the amplifier at the core of the mic and dual gold-plating of the diaphragm.

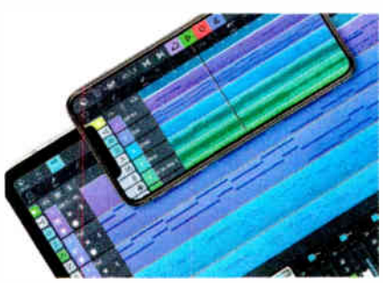
Configured with a MicroDot connector, one of DPA's adapters can be used for either wired or wireless applications. The mic also includes an integrated shock mount similar to the one found in the DPA 4099 mics.

Info: www.dpamicrophones.com

STEINBERG LAUNCHES CUBASIS 3

New whole number music/editing app "redesigned from the ground up"

Steinberg has launched Cubasis 3, a digital audio workstation/music creation app designed for iPad and iPhone iOS mobile devices. According to the company this "whole number" version was "rewritten from the ground up."



Cubasis 3 offers features like Group Tracks grouping; eight rearrangeable insert and send effects; 75 new effects presets; MIDI resolution dramatically improved with 960 pulses per quarter note; redesigned instruments and effects; and undo reinvented with a history list.

The audio, MIDI and automation editors have been updated. Cubasis has full screen mixer and waveform editing GUIs.

Free Cubasis 2 in-app purchase transfer to Cubasis 3.

Info: www.steinberg.net

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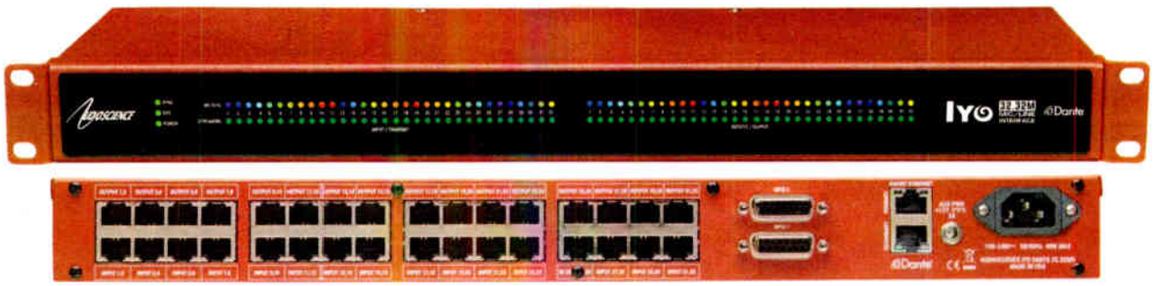

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GatesAir Networking Supports All-Digital STL

Intraplex equipment helps overcome challenges from weather and atmospheric conditions

USERREPORT

BY NEAL ARDMAN
President
NIA Broadcasting

JACKSONVILLE, FLA. — NIA Broadcasting has long understood the value that HD Radio can bring to a broadcaster's audience and brand. Following successful HD Radio launches at two of our FM stations, we turned our attention to WYKB(FM), a classic country radio station serving the greater Jacksonville market.

The WYKB HD Radio launch was part of a complete system upgrade covering the transmission facility and STL connectivity. For the latter, we transitioned from a pure analog microwave STL link to a hybrid GatesAir Intraplex networking system with a digitized microwave STL, IP codecs, and redundant streaming capabilities. The complete system also includes a new GatesAir air-cooled transmitter equipped with HD Radio Gen4 transport and processing systems.

The new STL architecture is built to withstand local atmospheric conditions that create unusual operating challenges. This includes tropospheric inversions, a rare temperature-related phenomenon that can create waveguide-like reactions within radio signals. Those reactions can cause the WYKB signal to suddenly be heard in markets far beyond our region.

While tropospheric inversions only happen several times each year, it is a problem that requires attention. We not only needed an STL system that could carry HD and FM program audio (as well as program-associated data), but one that also consistently problem-solved any negative inversion effects.

Working with GatesAir, we designed an interesting solution that addresses those two key requirements while adding greater redundancy and resiliency. And, we achieved this in a way that retained our existing Intraplex HD Link 950 MHz STL, leveraging its integrated IP channel option to carry HD Radio data.

Dig more deeply into codecs and STLs in Radio World's latest free ebook at ***radioworld.com/ebooks.***

The HD Link microwave connection is spliced with an Intraplex IP Link MPXp codec, using its digital AES192 transport functionality to transport HD and composite FM signals over the public internet. A GatesAir IP Connect device transports the E2X (exporter-to-exciter) data to the transmitter over this same connection, with all systems leveraging GatesAir's Dynamic Stream Splicing software for redundancy. This software ensures that each connection can borrow packets from each other to repair streams, and is the secret sauce to the new system's rock-solid reliability.

It's important to stress that the two transport streams are active 24/7 and almost act as a single, combined primary link (versus main/backup), as the dual IP streams are technically spliced together. This is critical in a region like northern Florida, where long-term power and service outages are possible. There is also the very real possibility of wind-damaged STL dishes from hurricanes and tropical storms. If we have a hit on the STL or the public internet, the audience will not notice, supporting GatesAir's claim as a "hitless" solution. There is no glitch, no on-air hiccup, and no switching between stream required.

This is also true when potential problems are self-made, such as when we recently changed IP addresses on our fiber line. Traditionally, that work would have taken place at 3 a.m. with the station off the air. With Dynamic Stream Splicing, we handled this in daylight with the station on the air — and with no audible effect on the listening experience.

Using this configuration, we can also maintain the highest possible audio quality. While the IP Link MPXp offers an analog composite MPX output, we opted for AES192 to keep everything purely digital and uncompressed. The HD Link is itself a broadband system that natively passes uncompressed audio. The upgrade effectively ends all analog program signal transport to the transmitter site.

As technical as the new system sounds on paper, the new Intraplex system was configured and functional within 24 hours. This includes new IP Link MPXp codecs and HD Link digital radios at the studio and transmitter sites, as well as the studio-based IP Connect device.

The IP Connect is vital to the operation, as it creates an IP path to reliably move HD Radio data from studio to transmitter over both systems. That data originates from GatesAir's Flexiva FMXi 4g, an embedded HD Radio solution that combines the traditionally separate "Importer" and "Exporter" functions. The FMXi 4g also builds HD Radio diversity delay into its platform, so FM and HD time alignment is handled before all multiplexed digital signals leave the studio. At the transmitter site, the Flexiva FAX exciter amplifies all signals within the Flexiva FAX10 air-cooled transmitter, with HD Radio sidebands set to –14 dB.

The support from GatesAir continues to be top-notch. Like the Intraplex systems, they are always available and continue to respond quickly when we have questions months after the installation. That is clear evidence of their dedication to customer service.

For information, contact Keith Adams at GatesAir in Ohio at 1-513-459-3447 or visit www.gatesair.com.

GatesAir FMXi 4g HD Radio Importer/Exporter

GatesAir Intraplex IP Link MPXp.

Intraplex HD Link 950 MHz STL.

> While the IP Link MPXp offers an analog composite MPX output, we opted for AES192 to keep everything purely digital and uncompressed.

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World Radio History

Oregon Public Radio Broadcasts Through Chaos

Comrex helps OPR navigate new remote broadcast workflows

USERREPORT

BY STEVEN KRAY
Sound Supervisor
Oregon Public Radio

PORTLAND, ORE. — I began working at Oregon Public Radio 15 years ago and am now the sound supervisor. In essence, I work for the news department and am responsible for the final sound quality.

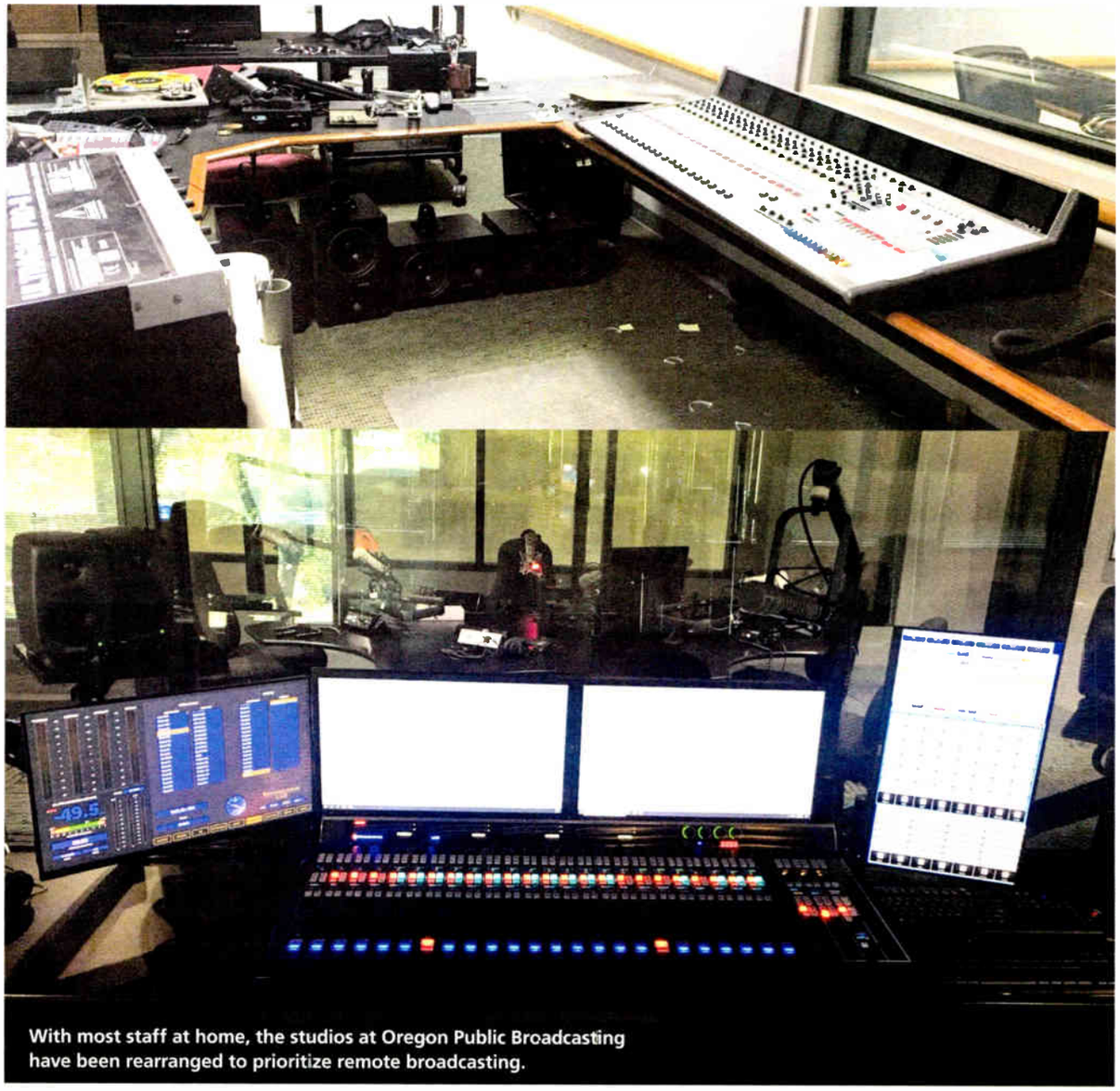
My job varies day by day, hour by hour. On any given day, I'll hop from engineering something for a live broadcast, to mixing a music session for an audience in our performance space, to doing post-production mixes for a documentary series on our own channel.

When stay-at-home orders were put in place in Oregon, we needed to work quickly to get our staff set up to work outside the studio.

We ordinarily have about 120 people, including talent and reporters, working in the building on any given day. In March, we had to cut down to 12, but we were still producing all of the shows we normally do, including our locally-produced "Morning Edition," a locally-produced "All Things Considered" and our flagship daily talk show called "Think Out Loud."

On that show, newsmakers come on and discuss what's happening in the state of Oregon and southwest Washington. The focal point of my effort when stay-at-home orders were put in place was making sure that that show stayed on the air — it gives us our highest ratings, and it's where people tune in for information.

We've been using the Comrex Access codec since it was first released. They have always been important to produc-



With most staff at home, the studios at Oregon Public Broadcasting have been rearranged to prioritize remote broadcasting.

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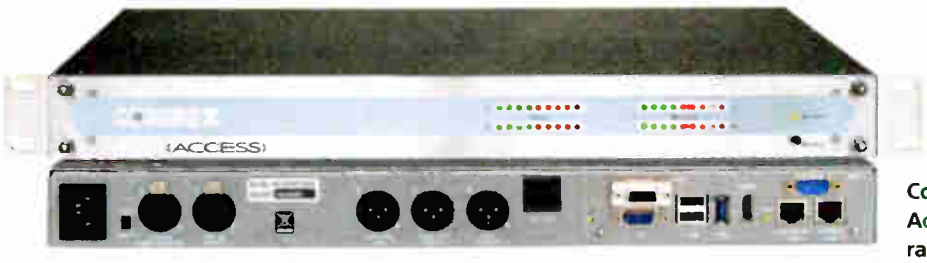

Comrex Access rack unit

Comrex Opal

ing "Think Out Loud" because they allow us to go into parts of rural Oregon and broadcast the show from places that usually wouldn't get a visit from a radio show like ours. We've gone all over the United States to do the show with Access units.

Now, we've been using them to make sure that our hosts don't have to come into the building. It's been pretty huge to keep everybody remote — the fewer people here, the safer we all are.

ISDN is not an option, and it hasn't been for a long time — it's not possible to get a line without a good deal of planning from any provider. (Not to mention, it's prohibitively expensive — one time, an ISDN line was accidentally left connected over a four-day weekend, and we were stuck with a $6,100 bill.) Access has been a great solution for us because in addition to sounding great, it doesn't come with a line charge.

We've been using Access in concert with other Comrex products. We have Comrex Opal for guest interviews, and we have three Comrex Access rack units to connect with our hosts from their homes. We also have one Comrex BRIC-Link here which we use to connect to all our remote bureaus — it's a dedicated link that lets us connect to other stations throughout Oregon and Washington.

I have the host of "Think Out Loud" outfitted with a portable Access unit, the attachable mixer and a headset mic, and he's been broadcasting from his son's bedroom.

The only hurdle is the quality of his home internet, but so far, it's been smooth. Because he can't be in the studio, we connect him with multiple guests simultaneously using a combination of tools.

For instance, we routinely have multiple-participant interviews where one guest is connected over Opal, a second is connected with BRIC-Link, and our host is using an Access, and they'll all be talking to each other. These tools enabled us to come up with a smooth solution for working outside the studio in the course of just a week.

I've been an evangelist for Comrex for a while, and our experience with its codecs over the course of the COVID pandemic has confirmed why. If we didn't have effective equipment, we wouldn't be on the air. But because we've had Comrex, we haven't had to sacrifice any of our programming.

For information, contact Chris Crump at Comrex in Massachusetts at 1-978-784-1776 or visit www.comrex.com.

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World Radio History

Starlink Digital STL Solves Problem for WJMJ

Eight-channel Moseley system supports HD Radio and provides peace of mind

USERREPORT

BY THOMAS R. RAY III
President
Tom Ray Broadcast Consulting

HARTFORD, CONN. — In 2018, it was coming time for a new main transmitter at WJMJ(FM) Radio in Hartford, Conn., owned by the Archdiocese of Hartford.

Father John Gatzak wanted to further the message of WJMJ to the community and wanted to go HD Radio. Looking at the situation, we looked to see if we could move WJMJ's transmitter because the signal skimmed the top of Avon Mountain, causing a shadow in the city of license, and the HD coverage would have been poor, at best.

We found that not only could we move the transmitter to Rattlesnake Mountain in Farmington, Conn., but we would be able to go from a Class B1 to a full Class B.

While this was good news, we were now presented with an issue. We needed to transport three stereo channels of audio up to Rattlesnake, preferably via microwave STL. And I wanted to have an IP backup in the event of a failure of the RF side. We knew we had a shot to Rattlesnake because we had a Moseley Starlink STL repeater at the site, as we could not see the old main site from the studios in Prospect, Conn.

LINEAR STEREO

Looking at the systems available, we chose to go with the Moseley Starlink SL9003QHP-8SLAN. There were many reasons, not the least of which was Moseley's reputation for building rock-solid products.

WJMJ, while being a religious station, runs a '70s, '80s and '90s format, with many other genres of music mixed in including a classical block, in addition to religious programming on Sundays. So the main analog channel and the HD1 audio quality were of prime concern.

The Starlink would allow us to have a linear stereo channel with no data compression for the main channel audio — perfect.

Doing so would allow running the other two stereo channels at 192 kHz data rate, AAC audio. From experience, I know that the AAC algorithm plays nicely with the HD Radio codec. The plan would be to put Eternal World Network in Spanish on the HD2, which would be evolved into a local Hispanic channel in the near future, and to put Eternal World Radio Network on the HD3.

While both are primarily talk oriented, the HD subs are currently being run in mono — but the stereo capability of the Starlink would allow us to take those channels stereo in the future. Even at 192 kB AAC from the STL, the HD subchannels, running at 32 kB each, sound surprisingly good.

The Starlink is capable of transporting four stereo audio channels in the RF channel (or eight mono audio channels), and four stereo IP channels from one end to the other.

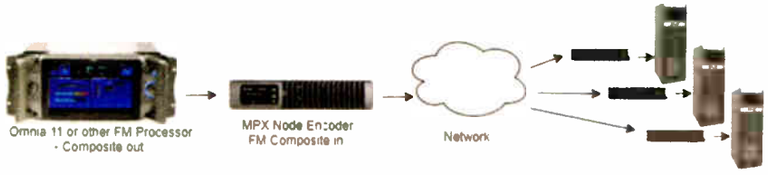
From the factory, the Starlink came configured with the RF channels the way I wanted them. The hard part was configuring the IP channels.

Word of warning — make sure you put the IP side of the Starlink behind a good firewall router, and open only the ports necessary. I initially was given an IP link to the outside world — naked — which worked for about 20 minutes, then the entire unit on the transmit side started rebooting, including the RF side.

Working with the Moseley tech support crew showed that our connection was being attacked with people trying to break in. The resultant overload of the IP side was causing the unit to reboot on a regular basis — we're talk-

TECHUPDATE

OMNIA MPX NODE EXTENDS NETWORK REDUNDANCY



The Telos Alliance says the Omnia MPX Node is a purpose-built hardware codec capable of sending/receiving full FM signals at data rates from 576 kbps to as low as 320 kbps using the Omnia μMPX algorithm.

Configurable as an encoder or decoder, the Omnia MPX Node is a building-block technology that helps stations deploy the power and capability of data networking to enable new STL options.

MPX Node makes it easy to relocate the main processor back to the studio; peak-controlled L/R baseband, stereo pilot and RDS data become routable to one or many FM transmitters using a standard analog MPX signal. Low μMPX data rates offer an solution for networks with limited capacity, including IP radios. The Encoder can be fed by any brand of FM audio processor; existing Omnia.9 or OmniaSST processing software users can have their processor serve as the encoder.

The latest (V 1.3) software update is available for download at *www.telosalliance.com/omnia/MPX-node*. It implements major internal improvements to support dual-path, fully redundant networking. New license options enable the encoder to support up to 16 unicast streams and allow the MPX Node decoder to receive multicast streams on supported networks. The HTML5 GUI lets you configure and control MPX Node from a smartphone, tablet or any modern browser.

For information, contact Omnia/The Telos Alliance in Ohio at 1-216-241-7225 or visit www.telosalliance.com.

World Radio History

ing roughly every 30 seconds. Once it was behind a firewall, everything has been fine.

The audio side of the Starlink is based on Moseley Rincon technology.

My pet peeve with the system is that you need to read multiple manuals — including the Rincon manual — to learn to set up the IP streams correctly. Each stream requires setting up a profile describing the codec and data rate to be used, so you need to understand your available IP bandwidth before you start. Each stream requires its own separate IP port from transmit to receive side, so you will need to open up the necessary ports in your router to the receiver — in our case, we opened three.

ROBUST

Once the unit was correctly set up — and it took a little trial and error to do so — the IP streams have been solid. In fact, I put them on the air recently when we had the antennas realigned after the TV repack, as there are five TV stations on the tower we are on and there was much activity near our antenna. The streams were solid and sounded good on the air during the realignment.

It has been on the air almost two years now, and I can count the data errors on one hand.

The RF side of the Starlink SL9003QHP-8SLAN features 5 W of output, as opposed to the 1 W of output featured in the older versions of the Starlink system. This adds robustness to the digital signal at the receiver — in our case, the shot is approximately 16 miles.

It has been on the air almost two years now, and I can count the data errors on one hand. This is through thunderstorms, ice storms, snow and heavy rain. I haven't gotten that panic call yet where the digital STL audio quits.

The Starlink SL9003QHP-8SLAN can be accessed through a web browser and through SNMP. The disappointing part of this is that you can only access the Rincon (audio) part of the system. You cannot control the RF side nor see the RF parameters. Moseley really needs to address this, as having this information available via web browser would be quite helpful when trouble arises.

It would also be nice if the Starlink allowed automatic switching to the IP streams, but alas, this is not the case, so we have external switching in place to do so.

A nice feature of the Starlink is that you can set up any output to be whatever audio source you desire — IP or radio. We use the AES outputs for the analog/HD1, the HD2 and the HD3 and I feed the main channel audio AES to the Starlink transmitter feeding the backup site. I have the analog audio ports set up so that the main channel audio feeds a backup audio processor, and the HD subs feed the analog input ports on the HD subchannel processors as backup.

Overall, the value and quality we received for the money we paid, and the reputation of Moseley products and support, have given us a reliable STL that does exactly what we need. Now, if Moseley could just give us a full manual with all the answers in one place, I'll be a very happy camper.

The Moseley Starlink SL9003QHP-8SLAN is an excellent choice for your multichannel HD operation or to just feed audio to more than one station.

For information, contact Bill Gould at 1-805-968-9621 ext. 785, email sales@moseleysb.com or visit www.moseleysb.com.

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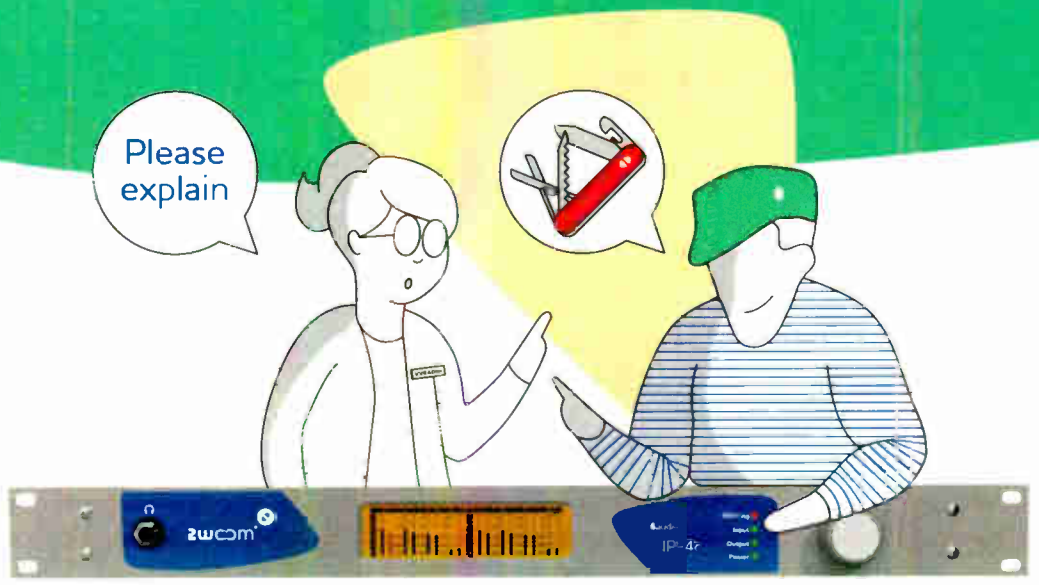

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World Radio History

Genie Is Magic for Blarney Stone Broadcasting

Tieline links multiple transmitter sites, and a microwave STL becomes the backup

USERREPORT

BY GARY LANGLEY
Chief Engineer
Nemosity Enterprises LLC

TRAVERSE CITY, MICH. — I am the chief engineer for Interlochen Public Radio and the co-owner of Nemosity Enterprises LLC with my wife Tina Marie. At Nemosity Enterprises we focus on broadcast engineering contracting and consulting and I am responsible for 14 FM transmitter sites, studios and facilities across Northern Lower Michigan.

I began my career as a ground radio repairman in the United States Marine Corps and worked nearly 20 years in television news stations. Four years ago, I made the switch to radio and nothing has felt more like "coming home" than that career move.

NEW INSTALLATION

My latest project involved Blarney Stone Broadcasting, dramatically expanding the reach of rock and roll station WQON(FM) 100.3 MHz. Q100 is now a combination of WQON, WWMN(FM) 106.3 MHz and WYPV(FM) 94.5 MHz, with live studios in Traverse City and Grayling, Mich. The three FM transmitter sites cover most of the northwestern and central Lower Peninsula (LP) of Michigan.

I've worked with Tieline products since 2016 and they are some of the most intuitive, flexible and reliable products I've had the pleasure of using. The uptime, ease of operation, flexibility and reliability have been second to none. So when I heard about this new project, I knew Tieline codecs would be ideal as the backbone of this new radio group.

Jerry and Sheryl Coyne own Blarney Stone Broadcasting, and the audience ebbs and flows between 300,000 and 450,000 people, with numbers highest June through September. I presented two options to the director of programming and all-round station guru

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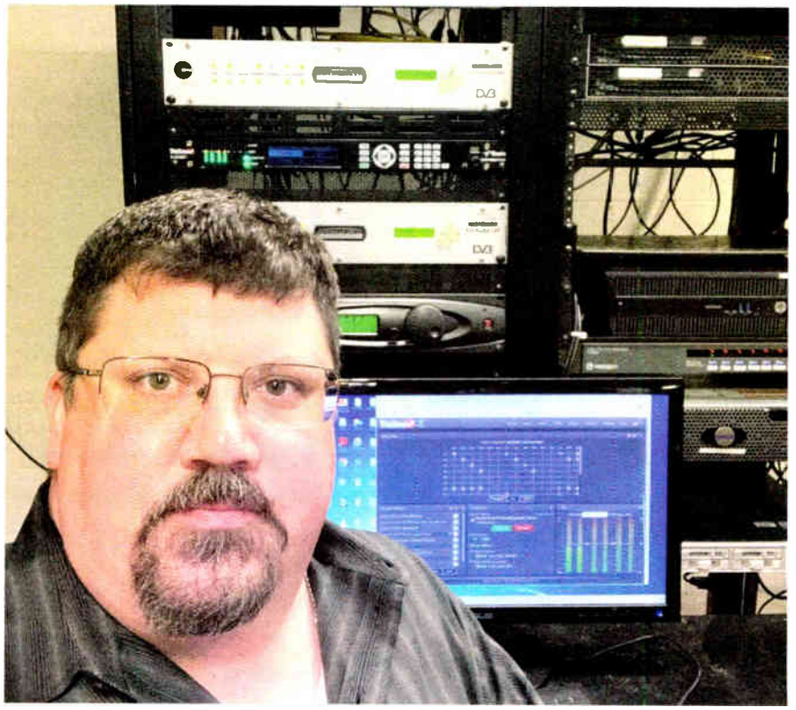

Remote control, remote operation and streaming delivery of content are the future. I believe everyone should plan for streaming taking over most content delivery to the station and listeners.

JJ Rowell. JJ has worked there for years and knows the day-to-day operations better than most. His input and direction was invaluable and he agreed that Tieline codecs would provide flexibility for years to come.

At that time I had three Genie Distribution codecs running two stereo pairs to two sites we use for Interlochen Public Radio, and one Genie and three Bridge-IT XTRAs for Baraga Catholic Radio, which was subsequently sold to Relevant Radio out of Green Bay, Wis. The Blarney Stone Broadcasting project involved installation of a Genie Distribution and three Bridge-IT Pro codecs. The Genie connects using the 3x Stereo program which creates three stereo feeds; one for each Bridge-IT Pro.

The Genie at Interlochen has been so reliable in sending two stereo audio streams to the transmitter sites, the budget for putting in a redundant system could be spent on other equipment.

For the new Blarney Stone Broadcasting project, Tieline's Report-IT mobile app is also important. With smartphone or tablet we can use this codec app to make it possible to broadcast high-quality audio for local sporting events anywhere we have a cellular internet connection with very minimal gear to haul around. The days of packing a carload of equipment to get live local sports on the air are over.

RELIABLE IP STREAMING

Without IP technology joining the Blarney Stone stations would be all but impossible. If you want an IP-based codec system that is reliable and easy to set up and install, Tieline is that system. Installing a reliable, high-quality STL path over IP makes my job easier and less expensive than microwave path studies, licensing, installation and equipment costs. The quality is so good that we use the microwave STL as a Tieline backup at Interlochen Public Radio's main broadcast site in Traverse City, Mich.

Opus Stereo at 256 kb is my preference for quality and sound; however bandwidth can be a challenge in some areas. Sometimes we dial Opus back to 96 kb if need be or select one of the many other codecs available to tailor each site's connection. We prefer adaptive jitter buffer settings, which allow packet movement to ebb and flow depending on network load, and use fixed settings if required.

Verizon, AT&T, fiber, local wireless ISPs and Charter Spectrum Cable all play a part in data delivery. Cradlepoint broadband routers with dual SIMs for Verizon and AT&T are also used at some sites. Some have a fiber WAN connection for redundancy and reliability. The biggest challenge in our area is broadband connectivity at some remote transmitter locations. While the terrain makes a tower site attractive because of its height and location, it tends to make fiber installs very expensive, unless one of the main players, Verizon or AT&T are on that site already.

The Tieline codecs are rock-solid, one of the determining factors in choosing Tieline. It takes a major network failure to lose connectivity, and as soon as that network is restored, it comes right back and reconnects automagically.

The Toolbox web-GUI is ideal for configuring multiple peer-to-peer connections and provides the ability to adjust audio matrix routing. This makes adjustments and codec management simple and effective.

I believe the future of broadcasting is in streaming. Streaming content from an IP-based system can be more reliable than satellite distribution. This facilitates having multiple paths, providers and avenues to pull your content. With a satellite system it either works or it doesn't. And when the Michigan winter rolls in and a foot or two of fresh snow covers your satellite dish, it doesn't.

Remote control, remote operation and streaming delivery of content are the future. I believe everyone should plan for streaming taking over most content delivery to the station and listeners. I have a feeling Tieline will play a major role in that future, at least for me and my clients.

For information in the United States, contact Dawn Shewmaker at Tieline in Indiana at 1-317-845-8000. For international contact Charlie Gawley at Tieline in Western Australia at 61-8-9413-2000 or visit www.tieline.com.

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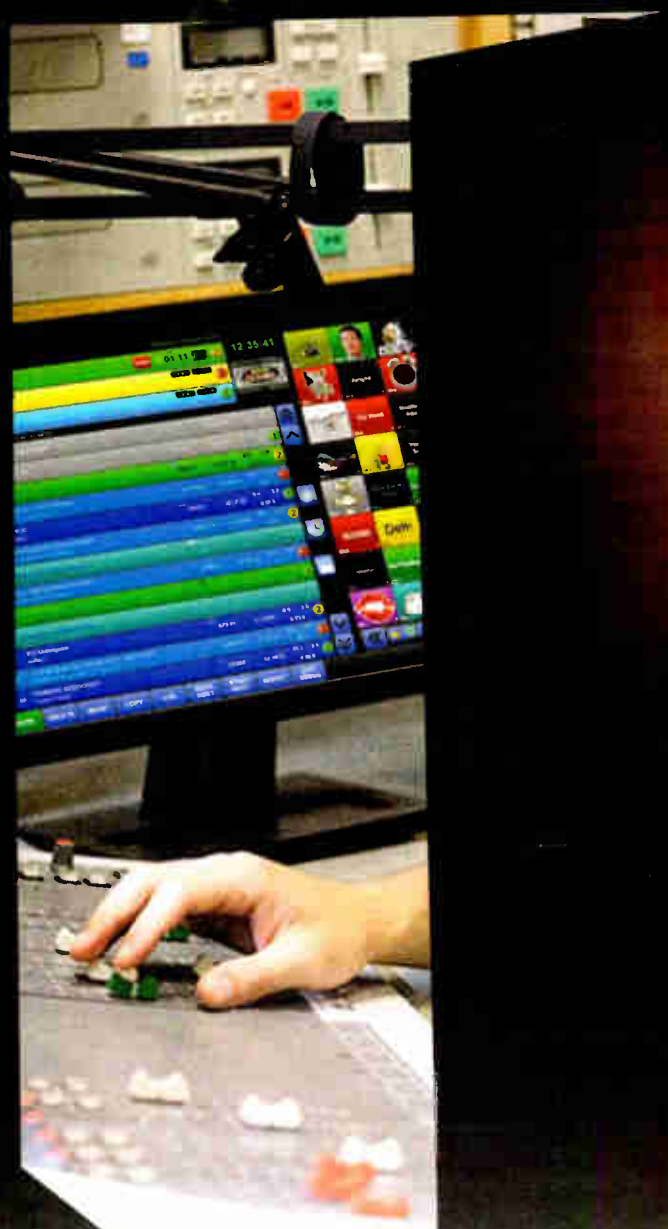

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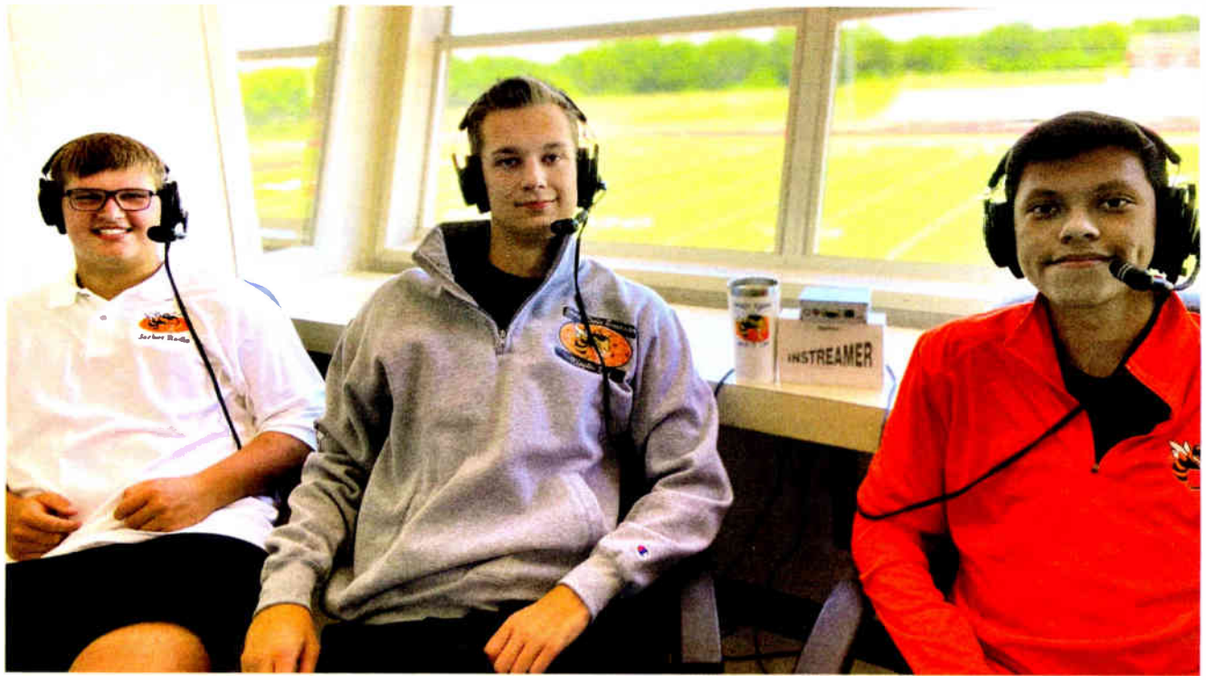
World Radio History

Barix Brings Jacket Radio to Texas Community

School sets up internet radio station that becomes sports hub

USERREPORT

BY JAMIE MARTIN
Teacher, Coach, CEO and Founder
Jacket Radio



Jacket Radio broadcasters, from left, freshman Jared Minzenmayer, junior Klayton Karl and junior Ethan Carrizales in the broadcast booth with the Barix Instreamer.

KEMP, TEXAS — Jacket Radio is Kemp Independent School District's official radio station. Kemp is a small rural town about 45 minutes southeast of Dallas.

I've been a history teacher and coach at the school for many years. About three years ago, I came up with the idea to start a radio program for our students. When I proposed the plan to the school's principal, he loved it and we got the project off the ground in no time. We named it Jacket Radio and began streaming through business management courses. From day one our students ran the station and led the classes.

The goal through this initiative was to provide the kids with a real-life business setting where they would work in the station's different departments (marketing, programming, engineering, etc.) and learn how to collaborate with each other.

TRUSTWORTHY

The station was almost immediately successful, but with a tight budget and little experience in this domain, it was a challenge for us to meet audience expectation. All the attention meant we had to keep growing in order to maintain relevancy. That's not an easy task when you're learning as you go. But we managed to add to our program offerings and began covering some of the sporting events for our high school and junior high teams.

As luck would have it, that year our teams started to do really well and made it to the football semifinals and the basketball regional finals — a big deal for rural Texas. That's when others, not only students, began tuning in. I mean we were pulling in some 40,000 listeners per game. That's huge for a tiny town like us.

We also started the Jacket Radio Podcast Network and introduced the Jacket Radio app so listeners can tune in through the app or directly online. As we grew it became clear that we needed to invest in dependable transport technology, and that's where Barix came into play.

Since we weren't well versed in the world of radio and audio, when shopping for a solution we were adamant about doing our research well. The more we studied how to move audio efficiently and reliably, the more the signs pointed us to Barix.

Today we have a live 24/7 broadcast with a mix of music, prerecorded segments and school sports, in addition to our podcasts. We use the Barix Instreamer encoder to help us ensure we deliver quality content in (AAC format) to our app and online.

SIMPLE AND EFFECTIVE

Before transitioning to the Instreamer, we used a laptop computer with an Icecast or Shoutcast program to send the audio to *http://radio.co* from the remote sports events. When covering away games, we never knew what the opponent's facility would offer, for example whether it had internet or a room to set up equipment. There have even been times we've had to broadcast from the bleachers — a real hassle with more complicated equipment.

The Barix Instreamer has changed that for us. Getting our remote sports broadcasts and events to air is now very simple. All we have to do is plug it in and power it up, and it connects to *http://radio.co* without further technical requirements. What's more, it frees up the laptop for other projects.

Today we have a live 24/7 broadcast with a mix of music, prerecorded segments and school sports, in addition to our podcasts. We use the Barix Instreamer encoder to help us ensure we deliver quality content (in AAC format) to our app and online.

Barix was responsive from our first contact. They configured the box for us, and with the help of their partner radio.co, we were provided a video tutorial and the Instreamer worked seamlessly from the start.

Jacket Radio's audio quality has improved enormously. There is no choppy signal to worry about with drop-ins and dropouts. Instead we now have this flexible yet dependable and simple setup where we plug the Instreamer into the laptop, and use a mixer and mics. We usually have three people in a booth, and recently experimented using a sideline reporter with the remote mic and monitor.

The Instreamer gives us more freedom. Now that we're up to speed using it for sports, and because we are so community-involved, we'd like to also start broadcasting from street fairs and festivals.

Our in-depth research paid off from an investment perspective. There are other units out there with various price tags, but when we factored in quality vs. cost, Barix won hands down. The Barix Instreamer is not only affordable but it's dependable, which ultimately is key for the long-term success of Jacket Radio.

For information in the United States, contact Will Schmidt at Barix at 1-866-815-0866. For international information, contact Reto Brader in Germany at 41-43-433-22-11 or visit www.barix.com.

World Radio History

TECHUPDATE
2WCOM'S IP-4C EASES AUDIO APPLICATIONS

2wcom is highlighting its IP-4c, a four-channel AoIP codec.

For web streaming, the IP-4c can simply provide streams to an existing streaming encoder, or it can act as a streaming encoder and feed a CDN directly by transcoding, for example, audio signals to adaptive bitrate protocols like HLS.

It supports AES67, Dante, Wheatnet, Ravenna or Livewire+. Each studio's contributions are forwarded to the multimedia over IP network server at the headend for further transcoding respectively to the operated distribution chains.

To overcome difficult network conditions, the IP-4c provides hot swappable power supplies, error correction mechanisms like Pro-MPEG FEC or SRT, streaming redundancy and backup by sources.

It can act as an FM or web radio to MPEG Transport Stream gateway to make the streams available on DVB transport for distribution for cable or satellite.

On-demand transcoders can be used when needed to handle alternative audio streams like audio description or audio comments for social media platforms and the radio.

The codec is available as hardware or as server software for installation flexibility and features are scalable on-demand.

For information contact 2wcom in Germany at +49 461 662830-0 or visit www.2wcom.com.

TECHUPDATE
ALIO DOES SPORTS AND BEYOND

The Phoenix ALIO is a portable IP audio codec that was designed for sports reporting but which AEQ says serves many other types of applications too.

It cites its compact design and resistance to pressure, shocks and liquids as selling points for outdoor use.

"It can connect to other codecs from most manufacturers thanks to the SIP communications protocol, according to N/ACIP Tech 3326 EBU standard," the company said.

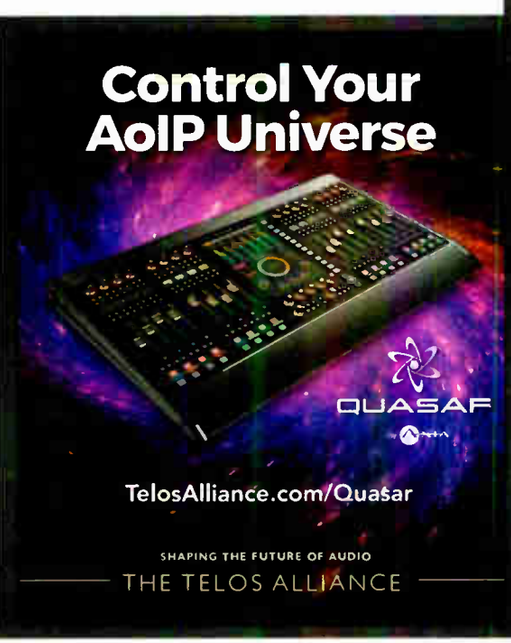
"But when connecting to another AEQ codec, users can take advantage of an exclusive set of tools that makes the establishment of communication and the control of the unit a simple task."

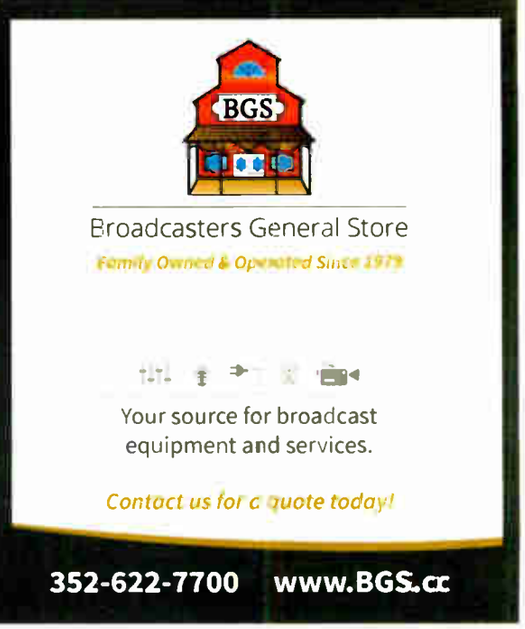
Those include a selection of Opus encoding algorithms; SmartRTP call-initiation protocol to simplify connection to compatible codecs; and a Help function that allows a user to request assistance from the station when facing an unexpected situation.

AEQ says the codec provides bidirectional mono or stereo operation; optional second mono or stereo communication channel, for technical coordination; and individual low- and high-frequency audio adjustments for each input.

ControlPhoenix Management Software provides remote operation and adjustment of the unit from the station for more complete control.

For information contact AEQ in Florida at 1-954-581-7999 or in Spain at +34 91 686 13 00, or visit www.aeqbroadcast.com.





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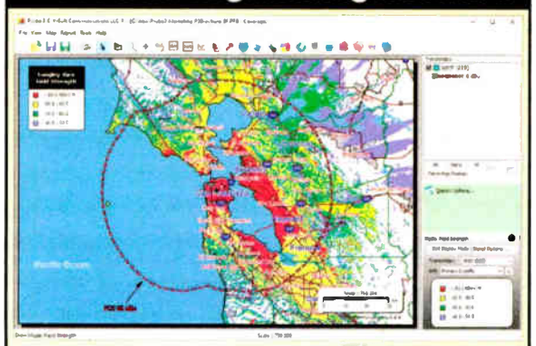

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Standard Short-tune series. Bill Cook, 719-684-6010.

(2) LPFM radio stations for sale, located in the NW part of central Florida on the gulf coast, covers the county, get out of the cold weather, come to Florida, call or write for particulars, 352-613-2289 or email boceey@hotmail.com or Bob, PO Box 1121, Crystal River, FL 34423.

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World Radio History

RadioDNS Aims to Establish Metadata Consistency

Effort seeks to codify use of content made available by radio stations for radio devices

COMMENTARY

BY NICK PIGGOTT

The author is project director of RadioDNS, a not-for-profit membership organization that seeks to promote hybrid radio globally and creates open technical standards for using Internet Protocol (IP) alongside broadcast radio (FM, DAB, HD).

RadioDNS has a mission to accelerate the growth of hybrid radio by establishing standards that reduce the costs and complexity of implementation. There's growing adoption of our technical standards; but not all the impediments to growth are technical.

Radio receivers used to be simple devices. They varied in terms of support for FM/AM, stereo and RDS, but the broadcaster could generally be confident that what they transmitted was what the listener heard.

As radio receivers have added more functionality, the opportunities for the listener experience to diverge from what the broadcaster intended has increased.

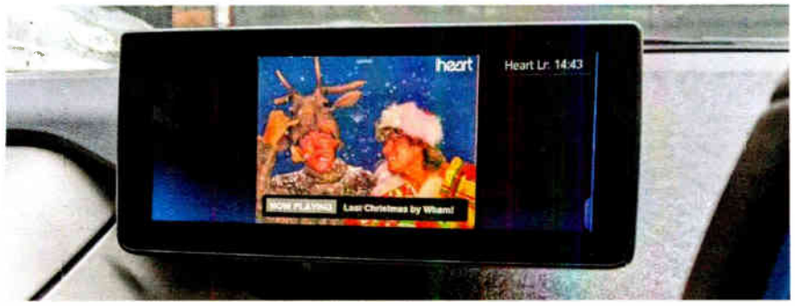
Sometimes this divergence is simply a misunderstanding. Many auto manufacturers started to include radio station logos in their cars, which made radio more visually appealing, but they didn't realize how frequently stations and logos change, so they made no provision for the logos to be updated.

Logos got out of date or entirely wrong as stations rebranded, and broadcasters became frustrated that they couldn't fix it. With the best intentions, manufacturers had implemented a great idea very badly.

Conversely, many broadcasters tried to circumvent restrictions on displaying dynamic text in the vehicle by "scrolling" their RDS station names, in complete contravention to the standards. As well as being a generally pretty poor experience, it frustrated manufacturers' development of better interfaces to broadcast radio, and even regressed radio in some vehicles. Some broadcasters even misused the emergency signaling protocols to "hijack" listeners to their stations.

Most controversially, a radio was released that supported album art/visual content from radio stations, but utilized an internet connection to add pre-roll audio adverts to broadcast radio, and insert advertising into the radio station's visual stream, without a station's knowledge.

Displayed stations can include name and logo.



Visual content in the car is becoming more and more important.

Here's the view for a U.K. driver of a recent model Mini. The screen at left shows visuals created by Heart London that have been transmitted via DAB digital radio.

Mistakes have been made on both sides. Some times with good intent, sometimes not so. But each time the assumption was "this will be OK."

Our latest activity is to be clearer about what "OK" looks like for radio, recognizing that the opportunity for there to be disagreements about what "OK" has grown in line with the additional functionality that connectivity brings. While our scope is hybrid radio, we think some of our thinking might also be useful for streaming and digital broadcast radio.

Our "Radio Device Metadata Terms" is an attempt to codify acceptable use of content made available by radio stations for radio devices.

It's a standard template agreement that broadcasters can adopt if they think it describes how they'd like their metadata and content to be used. We think a standard is valuable because it dramatically reduces the complexity of working out what "OK" looks like, and establishes a consistency that allows manufacturers to make a radio that works for the majority of radio stations globally.

Much of it is pretty obvious: Don't change the radio station logos, don't edit or rewrite content provided by the radio station. Don't add your own unauthorized content (or advertisements) to a radio station's content.

Some of this is putting into writing things that should be clear now. The radio station should have all the necessary rights to distribute the metadata and content, and they should stick to the technical standards. They should be reasonable about how long content (like logos) can be stored before it's deleted.

Nevertheless, it has taken time to consult and discuss these issues with all the stakeholders, because it inevitably creates some changes and places some (reasonable) restrictions in place in order to get consistency. We've taken input and circulated multiple drafts of the agreement so that people can understand how it will help and affect them.

We hope to publish the first version of Radio Device Metadata Terms on our website in the autumn. The key attributes are:

- It is a standard document that broadcasters and manufacturers can refer to, but RadioDNS isn't a party to any agreement. Our role is to enable the market, but not participate or intermediate.
- Broadcasters can voluntarily adopt it by linking to it from their RadioDNS metadata. If a broadcaster adopts it, manufacturers should abide by it, but RadioDNS won't be a party to resolving any disputes.
- If a manufacturer agrees with the terms, they can use all the content from any broadcaster globally offered under the terms.
- The terms don't cover all use cases, and they don't preclude any cases. If a broadcaster and manufacturer want to do something outside the scope of the terms, they can create their own agreement between them. That could be by extending the terms, or completely replacing it.

We'll be providing guidance on how to implement the terms to both broadcasters and manufacturers. We hope it allows broadcasters and manufacturers to move forward with hybrid radio faster, with fewer chances of misunderstandings. We expect it to be widely adopted during 2021.

You can learn more at the Radio Device Metadata Terms portion of our website, *https://radiodns.org/organisation/metadata-standard-terms/.*

RadioDNS is funded by its members, and provides a uniquely non-partisan environment for stakeholders to discuss and resolve issues surfaced by the evolution of broadcast radio enabled by combined broadcast and IP. We're really proud that our members represent every sector of the global broadcast radio industry.

Comment on this or any story. Email radioworld@futurenet.com.

World Radio History

Smyth: Stay Connected With Your Employees

The veteran broadcaster says it's crucial for leaders to be forthright with their teams

COMMENTARY

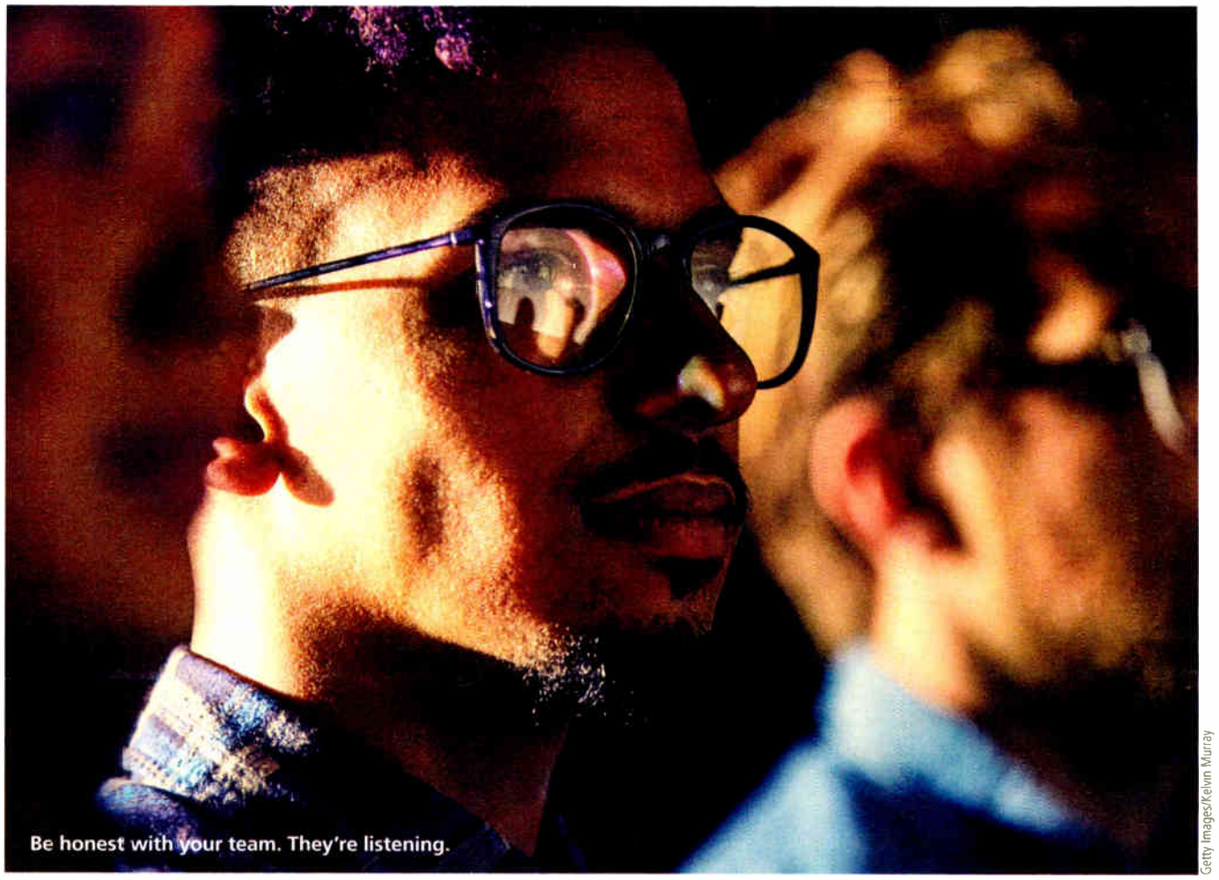
The author is the former chairman and chief executive of Greater Media.

The COVID-19 crisis has been devastating across multiple sectors of the U.S. economy — and the renewed threat posed by resurging rates of infection is troubling.

In the broadcast industry, where I've spent most of my professional career, big challenges are hitting radio markets and station groups all over the U.S., including in San Diego, America's 16th largest radio market.

Total radio listenership in San Diego has been down by 40 percent, with commercial revenue plummeting and operating budgets slashed as a result. You've seen significant layoffs at radio stations and the disappearance of beloved on-air personalities with decades of listener engagement in San Diego.

This unprecedented series of events will test broadcast company leadership like nothing we have seen — in San Diego and nationwide. The broadcast industry is pivoting dramatically before our very eyes. So too are the restaurant and hospitality business, transportation and common carrier travel, retail, personal services and many other fields.

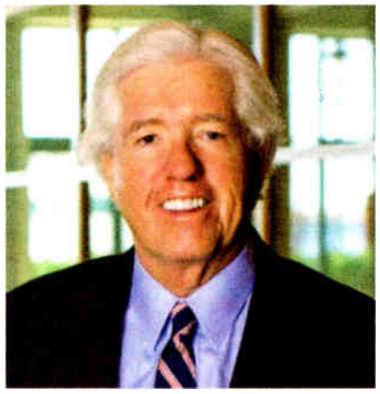


Be honest with your team. They're listening.

Getty Images/Kelvin Murray

STAY CLOSE WITH YOUR PEOPLE

The transformative effect of COVID-19 on our economy won't just be felt for a set period of time. It will change some businesses forever, inspire or motivate creative ideas for managing this new reality, and sadly inflict damage enough to end many enterprises completely.



Peter Smyth

Whether it's broadcasting, manufacturing, service industries or retail, you cannot manage what you don't understand. And the only way to genuinely understand how transformative events impact your team is stay as close to them and communicate with them as much as possible. That means reaching out and connecting daily with the men and women that make your company work. It means being present for them and being counted alongside them.

I've seen a number of incredibly valuable information tools emerge in the roughly five-month period during which COVID-19 has altered our social, behavioral and economic landscape.

An April piece from Harvard Business Review by three ghSMART management consultants ("Four Behaviors That Help Leaders Manage a Crisis," *https://hbr.org/*) demonstrates that the most important goal of managing through a crisis event is taking good care of your team. Significantly, these experts suggest that acting definitively with speed over precision is often necessary to keep pace with fast-evolving and impactful events.

A similarly timed report from MIT's Sloan Management Review notes the importance of team leaders or middle-tier managers as organizational figures that "set the tone and serve as the voice of reality."

What these company figures say and share and how they lead can be more influential than the actual CEO or other top-tier leadership. "Support the organizational stance; if you bash the organization or its leadership, employees will lose trust," writes consultant Amy Leschke-Kahle, the piece's author. "They need to be able to rely on their immediate leader for honesty and stability."

A report from MIT's Sloan Management Review notes the importance of team leaders or middle-tier managers as organizational figures that "set the tone and serve as the voice of reality."

And finally, consultant Jack McGuiness writes in Chief Executive magazine that practicing "positive accountability" is the most effective method for supporting teams working through unusual or uncomfortable circumstances. Bottom line: if you need to get someone back on track, begin the conversation with the things they are doing well.

Company or workplace leaders should be staying connected both literally and emotionally with their employees. Hold weekly town halls via Zoom or other remote technology. Have informal meetups online and make unexpected calls to staff just to check in and see how they are doing.

And always, always, be honest and forthright about what is happening with the economy and your company. In good times and in bad. When the news is encouraging or when the news is devastating.

There will inevitably be tough decisions made during such a 100-year economic weather event. But always remember to treat your people as you would wish to be treated. Information is an asset, not a liability. Share it properly and your team will hang in there with you.

Peter H. Smyth is now a senior consultant to American Media and is a member of the Massachusetts Broadcasters Hall of Fame.

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