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Simplifying EAS insertion on HD subchannels

Work of the NAB Radio Technology Committee pays a dividend



Paul McLane
Editor in Chief

A

highlight of our recent Pro Audio & Radio Tech Summit was the session "Building the Virtual Air Chain." Among the speakers was Alan

Jurison, senior operations engineer for iHeartMedia and a member of the NAB Radio Technology Committee.

He explained a committee project intended to help broadcasters insert local EAS alerts onto HD Radio

subchannels that normally are fed their programming from another city or from the cloud.

Jurison said that achieving this in the past has been cumbersome, requiring a local master EAS encoder/decoder and some kind of audio switching device to interrupt the audio.

"We have a wide variety of formats at iHeartRadio, and we like to feature them on HD2 and HD3 subchannels throughout the nation, but the automation system that's running the national format isn't necessarily in the market. So how do we get emergency alerts on it?"

The committee worked with hardware manufacturers and Xperi on an approach. The first device resulting from that work is the HDR-CC standalone embedded HD Radio capture client from manufacturer 2wcom.

You tie together the GPIO and audio connections from your local Sage, DASDEC or other EAS device. When an EAS alert comes through, the 2wcom device logs into the embedded HD Radio Gen4 importer/exporter and can replace all supplemental channels (HD2-HD4) with the EAS audio. After the GPI is released, the HDR-CC logs out and the importer continues with normal operation airing the original program material already in progress.

As a result, listeners to the HD Radio subchannels get relevant local alerts as required by the FCC rules and regulations. This could be achieved prior to Gen4 HD architecture, but involved complicated external audio

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switchers.

The committee tested this with iHeart '90s music content. A system in the company's Cincinnati data center was running RCS NexGen automation, a music log and streaming software. It fed through iHeart's WAN infrastructure to its headquarters in San Antonio, and then on to an FM station's HD Radio subchannel on WWHT(HD2) in Syracuse, N.Y.

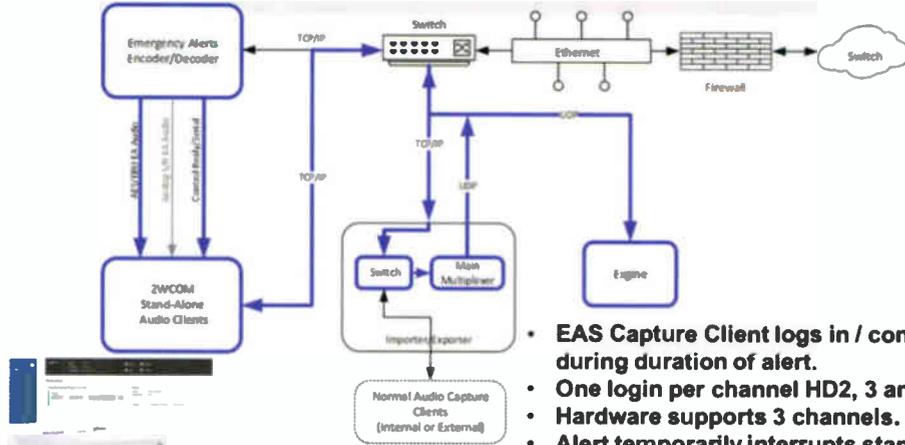
It was successful, and iHeart has kept that in place, now using RCS' cloud-based automation software as the source today.

"You're still regulatory compliant," Jurison said, "but you can have that audio come from literally wherever you'd like now with Gen4."

You can watch that session for free at proaudioreadiotechsummit.com.

Keep an eye on what the NAB Radio Technology Committee is up to. They're also working with all the major processing manufacturers so that they can integrate

Gen4 HD SPS Emergency Alert Insertion



- EAS Capture Client logs in / connects during duration of alert.
- One login per channel HD2, 3 and 4
- Hardware supports 3 channels.
- Alert temporarily interrupts standard audio capture clients.

Diagram Credit Xperi, used with permission

Above
A slide from Alan Jurison's presentation.

Nielsen's PPM encoding directly into audio processors without the need for external encoders; and they're having similar discussions aimed at making EAS for non-HD channels more flexible and resilient as well.



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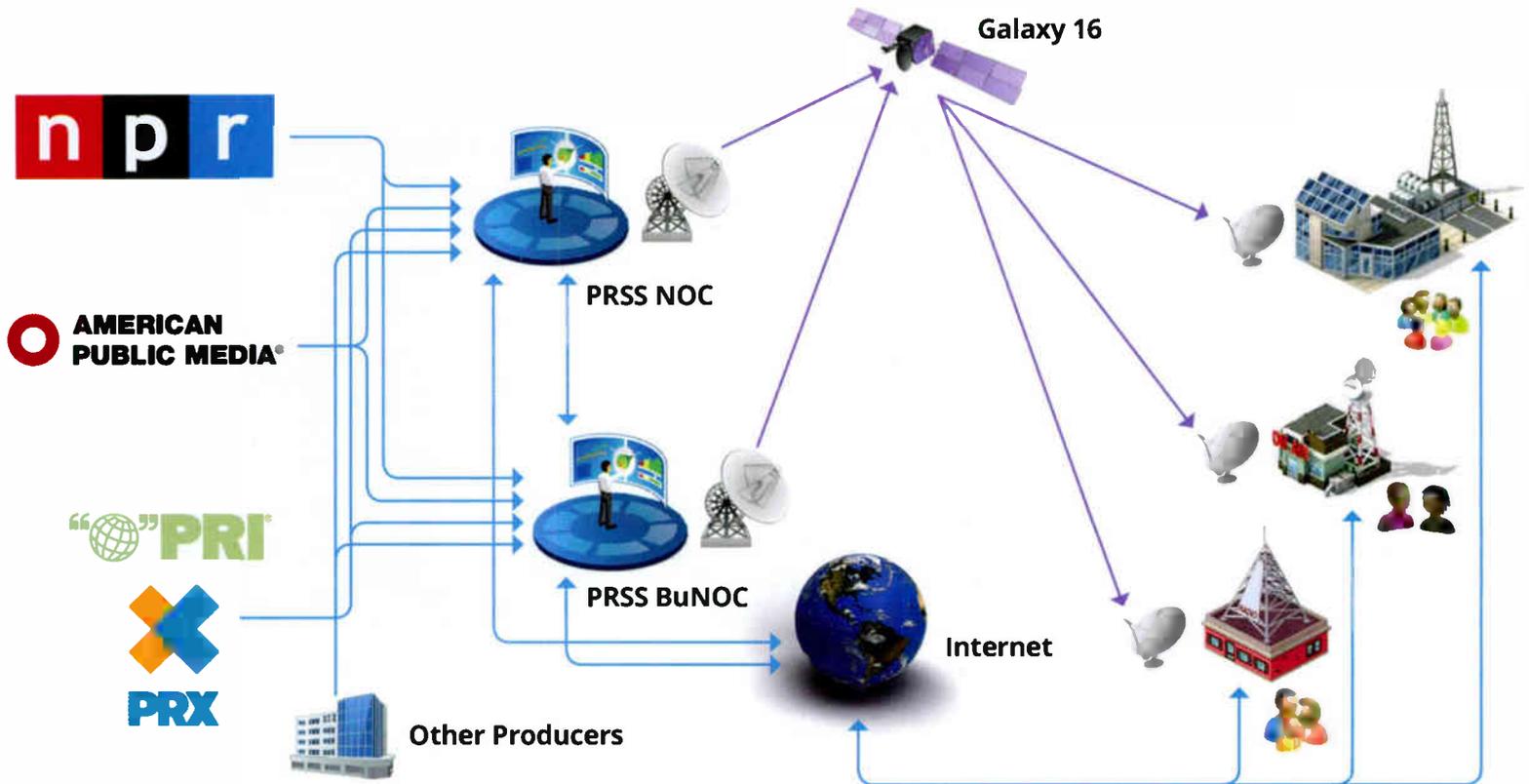
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Credit: Allen Baylus, Doug Bevington NPR

PRSS stations get new receivers

Project improves remote monitoring, backup and bandwidth usage

Affiliates of the public radio satellite system in the United States are in the process of completing a major receiver switchover. The project involved deployment of XDS headend hardware and the XDSv7 Content Management system from manufacturer ATX. "Collaboration with NPR was paramount in helping ATX enrich and improve its XDS Radio Platform with new and advanced enhancement," said Jose Rivero, an executive with the company's Media Broadcast business.

Radio World asked Michael Beach, NPR vice president of distribution, about this project in March.

RW **What was the scope of this project, and who exactly was involved in it?**

Michael Beach: More than 300 public radio stations interconnected through the Public Radio Satellite System (PRSS) installed two new ATX receivers. Those downlink sites in turn feed about 1,200 public radio stations throughout the country.

RW **What specific equipment is being swapped out or upgraded?**

Beach: The specific equipment at the stations includes two ATX XDS PRO4S Integrated Receiver Decoders. The

Writer
Paul
McLane

On the cover
A view inside the Backup Network Operations Center (BuNOC) in St. Paul, Minn.

Above
Public Radio Satellite System interconnection diagram

receivers are integrated with our proprietary software, ContentDepot, which enables content management, scheduling and automation integration. These ATX receivers are replacing two IDC 4104 Integrated Receiver Decoders at each station.

In addition, we've rebuilt our Network Operations Center (NOC) in Washington, D.C. — the hub of our system — and made significant upgrades to our Backup Network Operations Center (BuNOC) in St. Paul, Minn.

RW **What are the key benefits to stations of the change?**

Beach: The new ATX system enables us to add new services immediately, and to add others over time with some additional development work.

For example, as soon as we implemented the new system, we were able to activate a backchannel internet connection. This allows instantaneous remote status monitoring by the NOC at NPR headquarters. That means we know immediately if a station is having signal issues or has gone offline.

Another feature of the new PRO-4S receivers is that they will automatically receive a feed across the internet in the event that the satellite signal is lost for any reason.

The receiver also helps NPR consider future bandwidth-

delivery options over terrestrially-based networks. Using the new system, stations can not only subscribe to national radio content, but also schedule when the content will be played out of the receiver locally.

RW We heard that there were some bumps along the way. What problems cropped up and how were they resolved?

Beach: The scale of this project was huge. It included a rollout to all public radio stations in the network and required a large equipment change at our main and backup facilities.

The effort required careful planning and execution because it involves an overhaul of equipment, software upgrades and working with almost 400 organizations, many in different time zones. This all needed to be coordinated while running a network 24/7, and a switchover to the new system without causing any stations to go off the air.

Then add a pandemic, just before we planned to ship the receivers.

The effect of the pandemic meant that many organizations closed their physical stations and moved staff to work remotely either for weeks or months. Many are still working remotely. Since station engineers were working remotely, deliveries had to be delayed until last fall, and then installations were delayed.

Each public radio station is independent of the network, so local station technical designs vary. This means that the receivers require a different, unique effort to fully integrate into each broadcast station's audio chain.

In some cases, local engineers may have waited until late in the transition phase of the project when we offered both the old and new interconnection systems side by side in dual operations. If the integration effort required more than the local station engineers envisioned, then wrapping up the work in time for the completion of dual operations on Feb. 26, 2021, became a challenge for some. We continue working with individual stations that did not complete their integration on time.

Our project management office and account reps worked tirelessly to determine workarounds and time-saving options with our engineers.

For example, the pandemic meant we needed to delay travel to complete installation work at the BuNOC in Minnesota, too. When our engineers were finally able to travel, they drove non-stop from Washington to St. Paul to be as careful as possible and avoid non-essential interactions.

Our engineering team adjusted their schedules, too,

making improvements in our NOC and also guiding engineers who were able to get into their stations through installations. Our NOC technicians



Credit: Courtesy NPR

Top
NPR Distribution
Services Network
Operations Center

Above
Michael Beach

and Help Desk adapted to phone and Zoom calls to try to make this transition as smooth as possible. Station leaders across the country and their engineers continued to be terrific, understanding, and patient partners throughout the project. That's gratifying, especially considering that they each had challenges they were dealing with in their worlds, too.

It's been an amazing team effort across the entire PRSS, and a reason that we're such a strong network of technology and people.

RW What is the budget for this project and who bears the cost?

Beach: The project is part of a four-year, \$25.8 million contract between NPR as the system operator and the Corporation for Public Broadcasting. The cost of operating the system is funded by the users — public radio stations and public radio content producers. The total scope of the contract includes the local receivers, a major

“ Stations now have increased flexibility to create multiple unique playout schedules from the receiver, including the ability to time delay live content. ”



“They’re using an ACCESS NX with an ethernet connection provided by the arena. Crystal clear - we’ve come a long way!”

 @stu_rush

Stu Rushfield
NPR Technical Director



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Above
ATX XDS-PRO4S
Integrated
Receiver Decoders

revamp of the main and backup technology in Washington and St. Paul, lease of satellite bandwidth for content delivery, and replacement of some aging satellite antennas at local radio stations.

RW What is the expected lifespan of a new deployment of receivers across the U.S.?

Beach: The station receivers have an expected life span of four to five years. However, NPR is maintaining a limited inventory of replacement receivers, and has an arrangement with the system vendor for repair or replacement as needed.

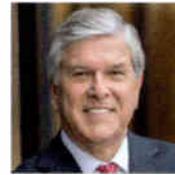
RW In sum, what are the major benefits and what else should we know about this project?

Beach: The new total network design allows the PRSS to provide better service to stations through a network monitoring system to help troubleshoot local receiver issues 24/7. The ATX system also better positions the system for network topology changes — including the transition to a terrestrial delivery system as those costs become more affordable.

Stations now have increased flexibility to create multiple unique playout schedules from the receiver, including the ability to time delay live content. We're also working closely with stations who are offering ideas about new features they'd like to see. 

“NPR is maintaining a limited inventory of replacement receivers, and has an arrangement with the system vendor for repair or replacement as needed.”

Newswatch Smith to Retire From NAB in December



Gordon Smith will retire from the job of president/CEO of the National Association of Broadcasters at the end of the year. Curtis LeGeyst will succeed him.

Smith joined NAB in 2009. In April he announced he'll "transition to an advisory and advocacy role" that will last until at least to the end of 2024.



Above
Gordon Smith and
Curtis LeGeyst

LeGeyst is chief operating officer of the NAB and has held several key lobbying posts since joining the association a decade ago.

Prior to that, he was senior counsel to Senate Judiciary Chairman Patrick Leahy of Vermont, a Democrat. He also worked on the staff of the 2008 Obama For America presidential campaign.

Smith was a two-term U.S. senator and is a Republican. He is widely seen as a pragmatist who can work with both parties. In addition to LeGeyst's lobbying experience, his Democratic connections are likely to help while there is a Democrat in the White House.

Newswatch SCOTUS Rejects Prometheus Challenge



The U.S. Supreme Court in April ruled that the FCC had acted properly when it decided to eliminate some radio and TV ownership rules. The decision was a defeat for groups that think further consolidation will decrease ownership opportunities for women and minorities.

The FCC, then under a Republican majority, voted in 2017 to abolish the newspaper/broadcast and radio/TV cross-ownership rules and relax several local TV ownership regulations.

Prometheus Radio Project and several other groups petitioned the courts to intervene, arguing the decision was arbitrary or capricious and rested on flawed data. That effort won an earlier round in an appeals court but lost by a 9-0 vote at the Supreme Court.

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* The Gateway-4 codec supports 4 channels only and is not upgradable to support more channels.



Digital Alert Systems Adds Single Sign-on

Digital Alert Systems announced availability of Version 4.3 of its Emergency Alert System software running on its DASDEC-II or One-Net SE EAS devices.

"Version 4.3 is a major release that further expands the security measures already built into the Version 4 software, including the addition of support for single sign-on (SSO) systems such as TACACS+," the company said in its announcement.

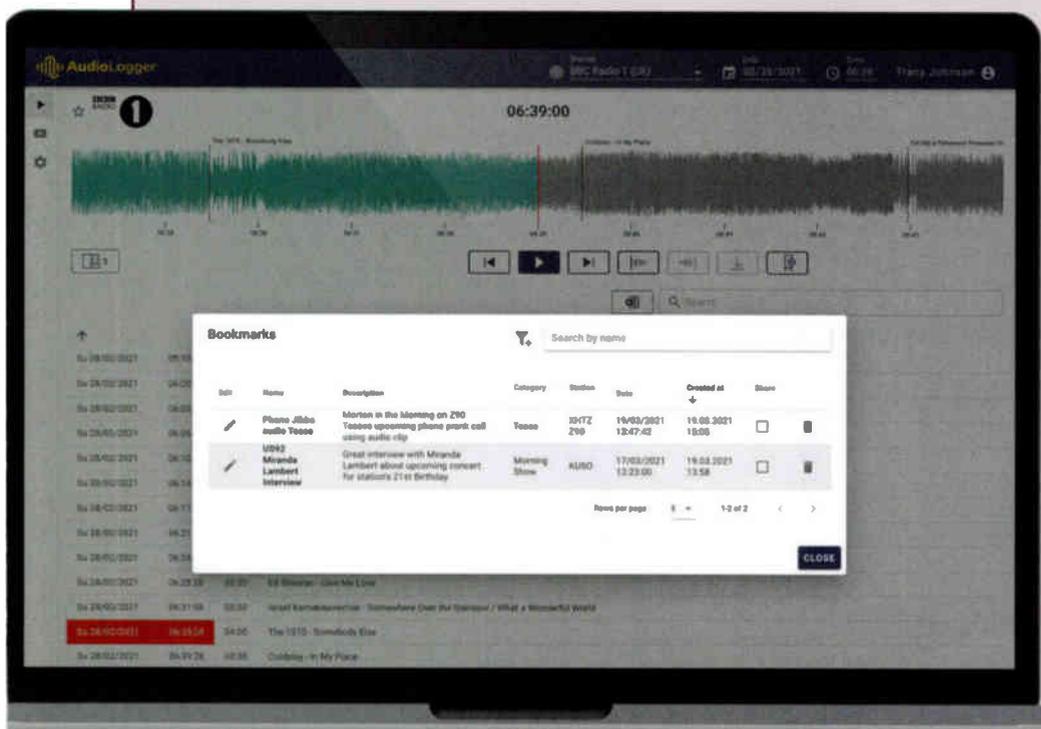
SSO lets a user log in with one ID and password to any of several related software systems. The company said this is the first EAS system to offer that capability, which it said will be of help particularly to enterprise customers that manage dozens or hundreds of EAS devices.

"Whereas previously EAS system administrators were required to maintain different names and passwords for each device, now with SSO they can manage users' access uniformly and grant or deny access to select individuals with the same tools they use for the rest of the enterprise," it said. For users of DASEOC, the company's system for emergency operations centers, V4.3 also improves connectivity and support for the new FEMA Integrated Public Alert and Warning System (IPAWS) Cloud Server changes.

DASDEC-II or One-Net SE customers running Versions 4.0, 4.1 or 4.2 can download the Version 4.3 upgrade at no charge. Registered customers will receive an email with credentials; customers not yet upgraded to Version 4 should contact the company.

Info: digitalalertsystems.com

AudioLogger Is "Smart and Affordable" Logging



Tracy Johnson Media Group announced the availability in North America of AudioLogger, a recently introduced software product that can be used to record "any radio station in the world."

It says AudioLogger allows user to record any radio station in the world 24 hours a day, 7 days a week, then edit, manage, export and share that audio in many ways. It is intended to be used for competitive monitoring, accessing airchecks and video publishing, among other things.

A user can export any segment to a branded landing page, then invite listeners, winners or advertisers to hear and share the segment. Johnson also highlighted the software's dashboard; its ability to download the music log and most-played list of any station; and its cost, starting at \$9.99 per month.

The firm that designed the software is Rute98 in Belgium, which is headed by programmer Alain Claes.

Info: theaudiologger.com

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John Bisset

CPBE

has spent over 50 years in broadcasting and is in his 31st year of Workbench. He handles western U.S. radio sales for the Telos Alliance and is a past recipient of the SBE's Educator of the Year Award.



Your ideas here!

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

Blast through concrete silently

Also, selecting the correct electrical terminations

Newman-Kees Consulting Engineer Frank Hertel always has an innovative tip to share. He recently came across an interesting compound that can help you when you need to remove concrete or rock.

You drill holes in the concrete, then take Dexpan Expansive Demolition Grout, mix it with water and pour it into the holes.

The chemical reaction with the water expands the compound, exerting 18,000 psi expansive strength into the drilled holes. The force breaks up rock or concrete slabs, even if rebar is present. The process is amazing, and you must watch the time-lapse video at dexpan.com!

For anyone who has demolished concrete with a jackhammer or even a sledge, you'll be amazed at this efficient alternative method. A bucket of the compound is less than \$50 and is available from Amazon or Home Depot. Enter "Dexpan" in the search block.

Finger trap

Wayne Eckert is with the Rural Florida Communications Cooperative. He spends a lot of "hands-on, in-the-field" time dealing with communications issues.

In the Oct. 28, 2020 issue we talked about asking your tower riggers to check for problems while they are on the structure to change bulbs. As an example, we ran a picture of a cable that had pulled free from a liquid-tight electrical box.

Wayne says the photo revealed an installation problem waiting to cause a serious light/electric failure.



Looking closely, he believes both cables were installed improperly and that the connectors were sized incorrectly or were not intended for supporting flexible cable.

The cable on the side of the electric junction box was bending tightly under its own weight, which, after a while, will cause the jacket to crack and permit moisture to enter the cable, compromising the insulation of the conductors.

A much better solution would be to use a connector with a strain relief, as shown in Fig. 2 on page 14. These connectors look like a standard liquid-tight connector with a stainless steel loom added to it.

Wayne said the stainless steel loom works like a Chinese finger trap: Stick a finger in each end, and when a child tries to pull them out, the loom tightens up holding the fingers in place. Great fun, unless you are the kid with the stuck fingers!

The connector works the same way. Pull the loom back, and push the cord up and into the connector, leaving enough slack to be spliced in the box. Then release the loom. It grips the cable evenly over the entire length, securing it tightly to the box.

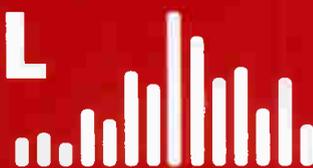
The loom will also prevent the cable from forming a tight bend, eliminating the potential for insulation to crack.

To select the correct size, note that the cable outer diameter may be listed metrically, thus 3/8-inch equals

“The loom grips the cable evenly over the entire length, securing it tightly to the box.”

Right
Fig. 1: Use Dexpan Non-Explosive Expansive Demolition Grout to remove concrete. The image is from a video at dexpan.com.

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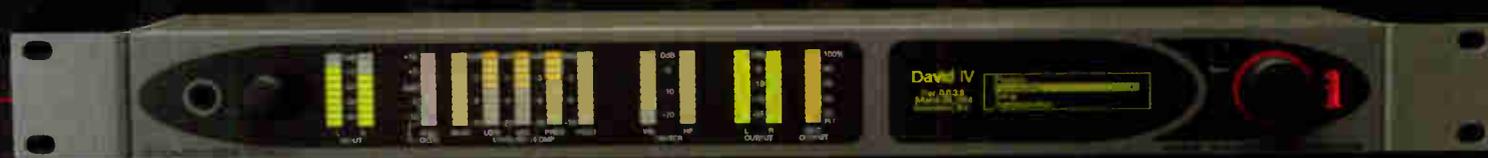


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Above
 Fig. 2: By choosing the appropriate cable connector and strain relief, you guard against future problems.

14

Right
 Fig. 3: The 1950s Paco Electronics Tube Tester that Dave Costanza's dad built from a kit.

.375 and 1/2-inch equals .500. Also consider the size of the knockout hole on the junction box.
 Wayne cautions that dust-tight connectors are for dry, indoor use. Deluxe grips are liquid-tight for outdoor use but can also be used indoors.
 The Hubbell Company manufactures these products. Find wire mesh grips and strain relief grips at www.hubbell.com, enter "strain relief grips" in the search field.

Tube memories

We recently featured a photo of a tube tester on display at the California Historical Radio Society museum in Alameda. Commonly seen in drug stores back in the day, they were available for customers to check their vacuum tubes at no charge.

Dave Costanza, CBNT, works in the video facility of the Pennsylvania Senate. The picture reminded him of a similar but smaller tester that his father built from a kit in the early 1950s.

Shown in Fig. 3, this tester is in remarkable condition. Dave says one of these days he'll "fire it up" and test a few tubes.

Dave joins scores of other readers who thanked us for the memory.

Speaking of memories, New England broadcast engineer Bob Meister saw our mention of the lifetime guarantee for Realistic vacuum tubes.

Workbench readers may remember that Motorola two-way radios also had a lifetime warranty on the "PermaKay IF filter" used in the receivers.

Bob wonders, "Whose lifetime were we talking about? The part's lifetime, or the company's?"





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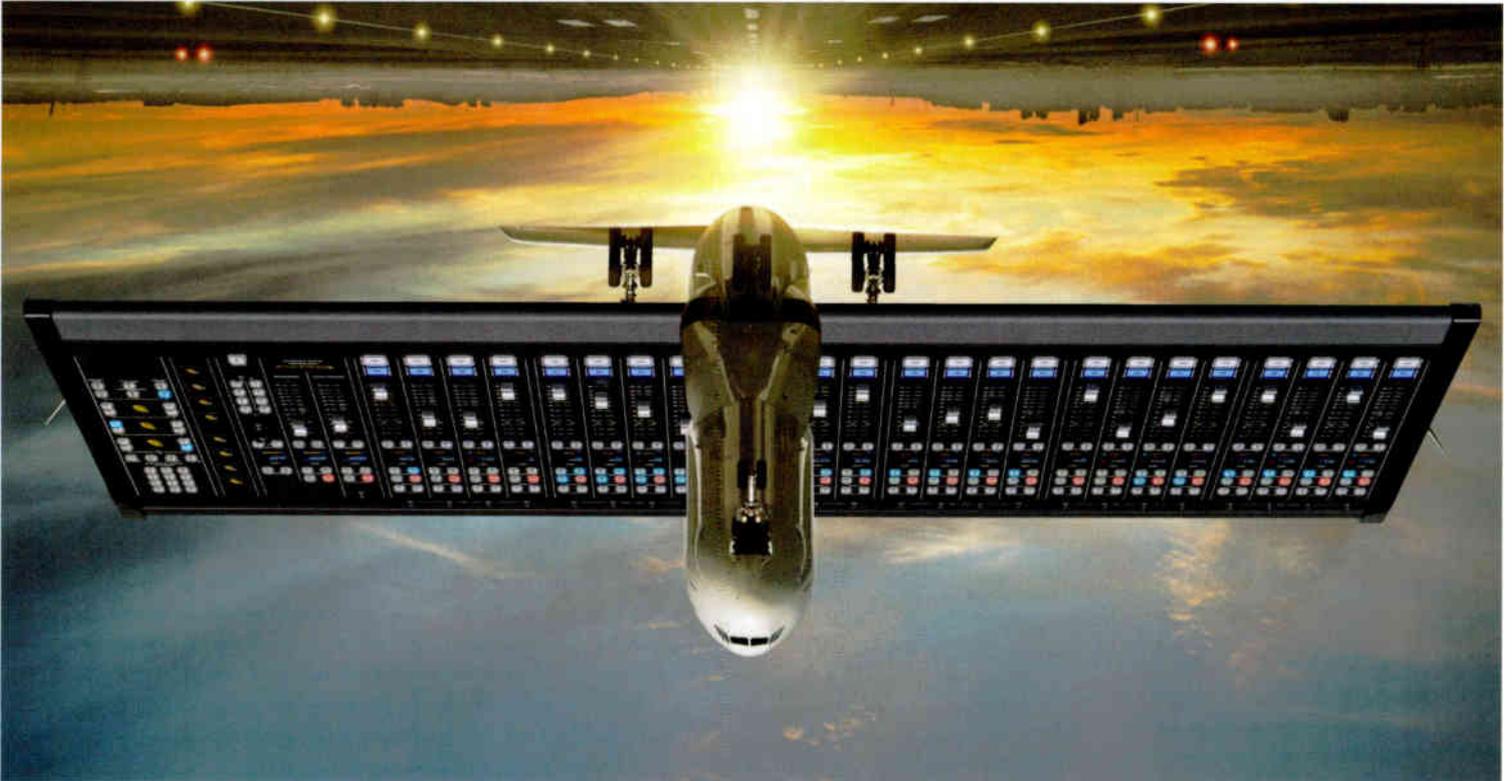
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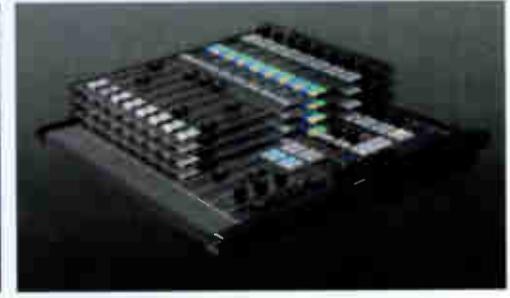
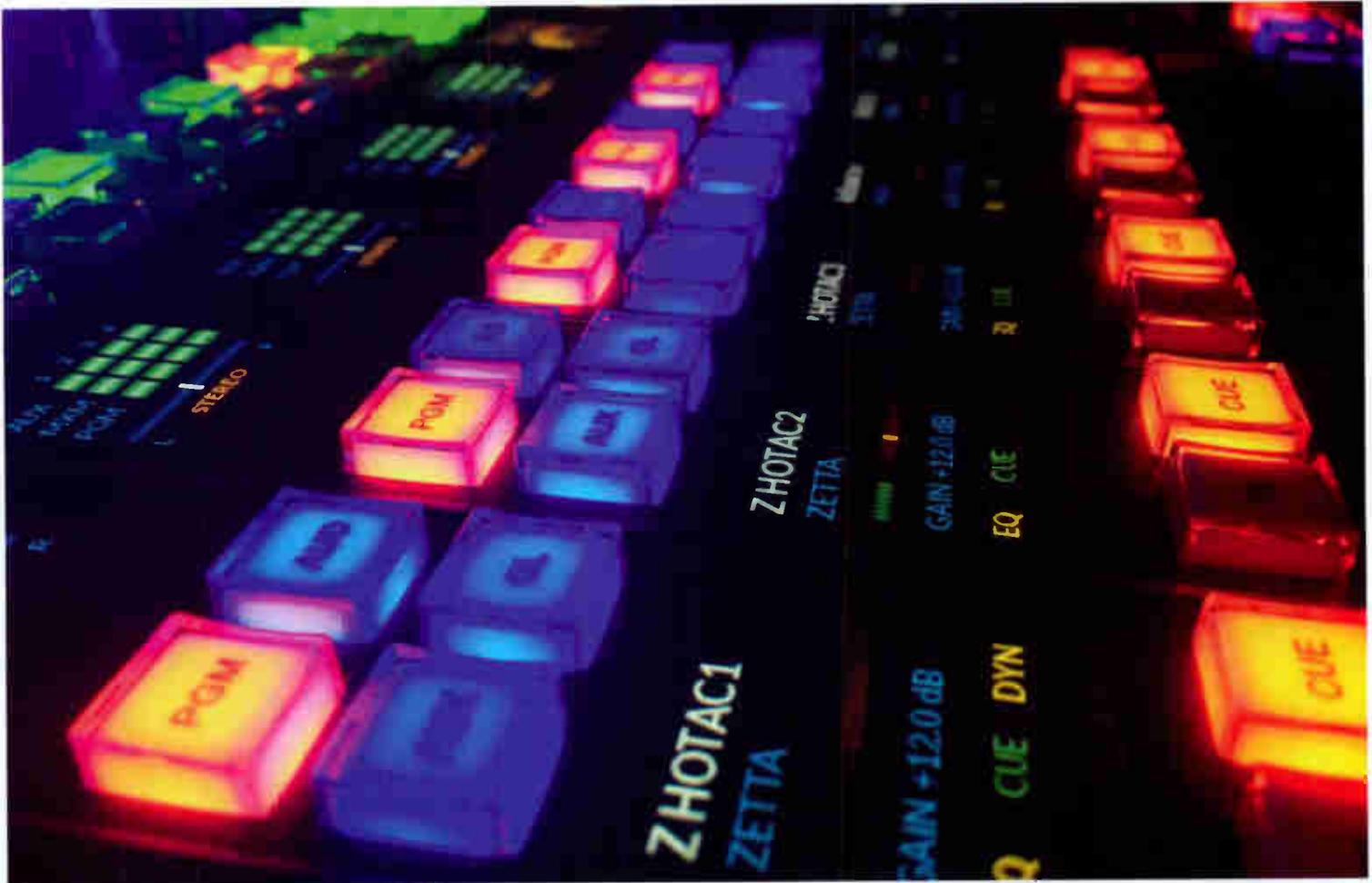


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James
Careless

is a longtime contributor to Radio World. He wrote in March about mass vaccination clinics using TIS radio systems.

New solar radio is an emergency kit too

But the CCRadio Solar starts with impressive audio performance

Solar-powered portable radios that put audio quality second are nothing new. But a solar-powered portable radio that sounds as good as a non-solar high-fidelity radio: This is worth talking about.

The CCRadio Solar from C.Crane fits this double-barreled description. With its generous top-mounted solar panel (3.75 by 1.5 inches) plus back-mounted generator crank for recharging its Lithium-Ion battery pack, this is a radio for blackouts and other emergency situations.

After an initial conditioning charge-up of the Lithium-Ion battery from a 5V DC adaptor, just leave it in a sunny window, and the radio is always ready to go.

In non-emergency situations, the CCRadio Solar can be powered with three AA batteries or a 5V DC charger plugged into its micro-USB port.

Worth noting

The CCRadio Solar has an LED flashlight with glow-in-the-dark "On" switch; and its USB 3.0 port can be used to charge a connected dead smartphone to 50 percent power.

It is a fine radio for listening to AM, FM (regular or extended band) or NOAA Weather Radio.

The frequency range emitted by the front-mounted 3 watt 2-inch front speaker can be "pumped up" by activating the set's High Power Audio Mode. The audio quality from the stereo headset jack is superb.

Perhaps the best feature for radio geeks (and non-radio geeks who live with them) is that the 6-by-3-by-2-inch CCRadio Solar with its "shades of pale grey" case looks like a tastefully designed set-top radio, rather than a piece of survivalist gear aimed at wannabe Navy SEALs.

Dual-purpose

The Solar is the brainchild of longtime radio aficionado and equipment innovator Bob Crane, owner of the C.Crane electronics store in Fortuna, Calif..

When he moved to this small remote town some 30 years ago, Crane had a difficult time tuning in the big-city AM talk stations he loved. So Bob Crane began to design and sell high-performance receivers at reasonable prices.

Today the online store sells a range of radios to fulfill a number of listening preferences, from tuning in distant AM/FM stations (e.g. the CCRadio 3 and CC Radio EP) to providing reliable multi-band coverage during extended power outages (the wind-up CCRadio Observer).

The CCRadio Solar is a departure in that it combines multiple main functions: high-fidelity audio and distant station reception with indefinite power.

Crane said you can expect 35 hours of run time between charges.

"If you are a lucky radio listener with a sunny window it is conceivable you might pay off the price of the radio with what you save on batteries."

At \$99.99 a unit, and given that I have yet to see



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a CCrane radio fail despite years of service, payback is a matter of time.

The nitty-gritty

Moving from left to right, the Solar's front panel features the 2-inch speaker and a large LCD display for tuning, band information, power level and clock functions including alarm and sleep modes.

Underneath the display are five memory buttons to save presets on the AM, FM and weather bands (seven NOAA frequency channels). The memory buttons can also be used in various combinations to turn the High Power Audio mode on and off, set clock and alarm and disable the Beep sound during tuning.

For distant AM radio fans, the buttons can be used to select 1, 9 or 10 kHz tuning steps plus a narrowband 2.5 kHz filter to reject interference from strong adjacent signals.

This allows the user to tune in a weak distant station adjacent to a local AM powerhouse. (The default AM wideband filter is set to 4 kHz).

Finally, the volume dial is side-mounted on the lower right side.

On the top of the radio is the solar panel, the Flashlight and Band selection buttons on the far left, and the red Power button on the right. There is a fully rotating whip antenna that folds into the side and extends from 4.5 to 25 inches for enhanced FM/Weather Radio reception.

The AM antenna is inside the set. It is directional, which means that distant signal reception can be improved by rotating the radio 90 degrees horizontally in either direction.

The radio's settings can be locked/unlocked while in Playback mode by pressing the Band and Power buttons simultaneously.

According to the manual, eight hours of direct sunlight can provide 10 to 14 hours of audio playback at a Medium sound level (without the High Power Audio mode being activated, because its enhanced bass consumes more electricity). Hand-cranking the onboard generator for 90 seconds, at two rotations per second or more, will provide 8 to 13 minutes of runtime from the Lithium-Ion battery, assuming that it was discharged.

This winter, Crane said that with the oversize solar panel he was able to keep it fully charged using it about one hour a day at full audio power.

"It would last much longer if I switched to low-power audio. It should run four hours a day in the summer on high power."



How to get it

The CCRadio Solar is available at ccrane.com/ccradio-solar.

“Features include a solar panel, hand crank, LED flashlight and USB 3.0 port to charge a smartphone.”

alkaline or Ni-Cads, but not Lithium.) The inside of the compartment door contains a "Cheat Sheet" covering the radio's basic functions.

Pros and cons

The audio quality is top-notch on all bands, even given AM's fidelity. So is signal reception: At night when distant signals bounce off the

The flashlight and recessed mount for the included carrying strap are on the left side. On the right panel, a water-repelling rubber door protects a mini-plug Aux In jack that allows the Solar to serve as an outboard speaker; a micro-USB port for charging the unit from a 5V DC adaptor; a switch for using either the onboard Lithium-Ion battery or inserted AA batteries; a USB 3.0 port for recharging a phone; and a standard earphone mini-jack.

The rear contains the foldaway crank and the battery compartment, which houses the included rechargeable Lithium-Ion battery and three AA cells. (These can be

ionosphere, the radio's AM band is chock-a-block with stations. Tuning using 10 kHz steps was like changing the channel on a TV set; almost every frequency has something on it, though granted, signal quality varied widely thanks to the vagaries of AM propagation.

Still, the distance-listening performance is impressive. From a second-story in Ottawa, Canada, I can receive WSB 750 in Atlanta, WWVA 1170 in Wheeling W.Va./St. Clair Ohio, and KDKA 1020 Pittsburgh, among many others.

FM signals are plentiful if not as distant, and the one Canadian "Weatherradio" station available to an Ottawa listener at 162.550 MHz comes in loud and clear.

One format the radio does not offer is HD Radio. "Power consumption is probably about double on HD Radio because of the power needed to process the digital signal," Crane said. "We will probably need to put this technology into a plug-in radio."

As for holding a charge? After three months I have yet to manually recharge it after the initial AC charge to prime the Lithium-Ion battery. I do not keep AAs in it; the power is coming from the sun.

Since, by convention, every review is required to include a complaint to prove its journalistic integrity, I will offer one: The rubber door covering the inputs on the right side doesn't have a hinge. One day the folding rubber crease will likely wear out, and I will be required to put some tape on it.

I have nothing but respect for the CCRadio Solar radio. Based on my 18 years of reviewing his receivers, I know that Bob Crane delivers what he promises in his custom-designed equipment. That said, the CCRadio Solar keeps its promises. 



Another option

The company also offers a windup radio called the CC Solar Observer that costs a bit less. But the newer CCRadio Solar is digital, has better audio and reception, and doesn't look like an emergency radio. Its solar panel also provides more power.



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More info

Watch a
webcast demo
of the FCC's
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interface at
<https://tinyurl.com/rw-opif>.

The FCC can see your public file

How to make sure your online files can withstand its glare

Compliance is the keyword. It has now been three years since all U.S. radio stations were required to establish an online public file or OPIF and move their paper files to the online portal set up by the Federal Communications Commission.

Since that deadline, it has become apparent that many licensees were not maintaining their files correctly. The FCC has drawn attention to this as station licenses come up for renewal, announcing a series of consent decrees in which owners large and small acknowledge that they failed to comply.

The commission has been lenient; these agreements involve no financial penalty and the FCC acknowledged the impact of the pandemic. But the decrees require immediate steps to address deficiencies, put best practices in place and report back to the FCC.

Concern and diligence

Properly maintaining the OPIF, political file and the quarterly issues and programs lists are of upmost importance as stations in 20 states have their license renewal cycle this year, and lack of compliance can cause the FCC at minimum to put an application on hold.

"With it being moved online and accessible by all, the public inspection file has gone from a randomly maintained annoyance to an important aspect of station compliance," said Frank Montero of Fletcher, Heald & Hildreth.

"Licensees are learning that they can no longer just check the 'Yes' [compliance] box on the license renewal."

While the recent consent decrees have not involved monetary penalties, failure

to comply with these rules can indeed be costly, said Cary Tepper of Tepper Law Firm.

"On occasion, multiple public file deficiencies have resulted not only in fines, but in license renewals being processed slowly, or in a couple of cases, short-term renewals issued," he said.

"Instead of an eight-year renewal, you get a one-year renewal with the order to clean up your act and prove to the FCC that you're going to remain compliant. It's created a lot of concern for some clients, but also made others more diligent."

To avoid issues or delays in the renewal process, stations should consider hiring an attorney to conduct an external audit of their OPIF.

Tepper and Montero said the most common trouble spots are with the political file or the quarterly issues and programs lists. Montero said this may be because these items "do not involve information that is automatically uploaded by the FCC."

Montero said, "For your political file, we tell clients that even if they had no contact with political candidates during election season, they may want to place a memo in the political file." He said this will let the FCC know that the station is aware of the requirements and that a lack of information does not indicate neglect.

In the event that stations find that their quarterly issues and programs list are deficient or there are other areas in the file that need revisions, Tepper recommends including a special exhibit during the license renewal process.

This will indicate that while "preparing the license renewal application, the station had its public file audited and found X, Y and Z needed to be fixed so fixed it before filing the renewal application," Tepper said.



"Normally, when the [FCC] staff sees that you are self-monitoring and fixing it, they don't make an issue out of it."

He said many stations don't realize that their remote programming can be included in the quarterly issues and programs list as "responsive programming."

"People don't think in terms of the complete picture of 'What have we done that qualifies?'" He noted that many stations broadcast live from local and charitable events but overlook these events when considering what to include in the quarterly reports. He said these may be documented in an attachment.

Best practices

Both attorneys stressed the importance of uploading any OPIF documents on or before the required deadline.

Montero recommended that stations assign an employee or staffer who is specifically responsible to make sure the file is kept current.

Indeed the recent FCC settlements typically include stipulations that the offending company designate a senior manager to serve as a compliance officer, someone who reports directly to the CEO or senior officer; establish a compliance manual; and set up a staff training program.

Tepper said the FCC website provides public file information about what documents need to be included in the public and political files.



Top
Cary Tepper with puppy Ava



Above
Frank Montero

"If you have any doubt, just throw every political document in there," Tepper said. "Even if you're not sure what should be there, they're not going to fine you or fault you for having too much in the public file."

Even though the online filing requirement was issued three years ago, some stations still have insufficiencies or have simply not set up their OPIF.

Tepper said some minority-owned stations may be missing important communication from the FCC because of language issues. Montero said

many smaller stations may not be aware of requirements and updates because they don't have the luxury of a FCC law firm.

Montero said good information is available from state broadcast associations, FCC resources, past articles in Radio World, YouTube training videos and blog articles.

State association websites often provide training materials, webinars and contact information for people who can assist smaller stations and provide education and training on compliance issues.

Participation in the Alternative Broadcast Inspection Program also provides a connection to a local expert who conducts an FCC-style inspection of the public file and station operations. While the certificate of completion from these programs does not free a station from FCC scrutiny, an ABIP inspection is an excellent way to identify any problems before the commission does. 



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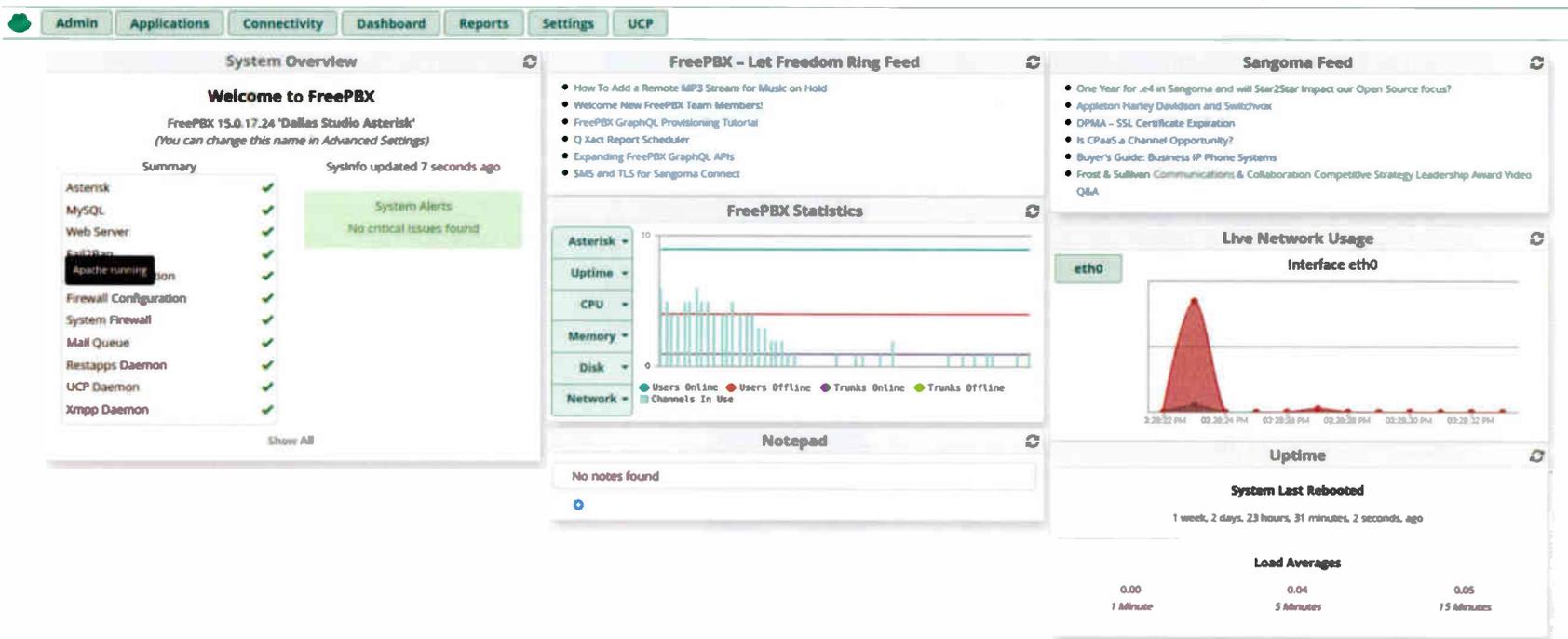
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Writer
Steve Walker

Assistant Chief Engineer, Radio One Dallas

Our experience with Asterisk and FreePBX

The author found this VoIP-based arrangement easy and inexpensive

Learn more

The FreePBX Blog has info about product updates and access to support, engineers and developers. It's at www.freepbx.org/blog/.

For years, Radio One Dallas had a Nortel phone system that seemingly required a service call for anything beyond switching out a handset cord. In order to change an IVR (interactive voice response), a service technician had to come to our location, plug a laptop into a secret port, enter a super-secret password and fiddle with the system for half an hour or more just to change the main phone greeting. Then would come the bill for at least \$150.

In 2013, Chief Engineer Don Stevenson and I decided we could do better.

From mutual friend Joe Talbot, who was with Telos Systems at the time, we had learned about an open source PBX system called Asterisk that ran on a standard

desktop computer running Linux. Not having much Linux experience yet we were a little wary but decided to dive in and figure it out.

Up and running

Two years later and after a steep learning curve, we were up and running with Asterisk and a whole new crop of VoIP phones.

The Nortel was gone, and so was its high cost of maintenance and upgrades. Phones for a VoIP-based system are a fraction of the cost of phones for the system we replaced. And we were generating our own ISDN and POTS lines.

Asterisk configuration was done via the Linux command line, but we had learned enough to be able to maintain the system ourselves with only an occasional call for help from our friendly neighborhood Linux geek.

We still use Asterisk to this day, and it has been the most reliable phone system we could ask for. It's online in many other Radio One markets as well.

We no longer need to worry about command line configuration, where a single mistyped character can send you down a rabbit hole you don't want to drop into. Instead, we're using FreePBX (www.freepbx.org), an open source graphical user

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World Radio History

interface originally built on top of Asterisk by the open source community.

Over the years, FreePBX has transitioned from a clunky piece of software originally called “Asterisk Management Portal” to a polished, highly configurable interface that makes building and using an Asterisk PBX easy for just about anyone.

It was maintained by Schmooze until 2015 when the project was purchased by Sangoma, a business phone system company based in Canada. They are now the primary developer of FreePBX. The company purchased Asterisk developer and hardware manufacturer Digium in 2018, making Sangoma the primary developer of Asterisk as well.

Setup

Hardware requirements are pretty simple. A 64-bit desktop computer or server that has been retired but still runs should suffice. If you use a PRI (Primary Rate Interface) you will want to get a single or multiport PRI card for the computer. If you are using SIP you won't need any additional hardware.

To install FreePBX, download the latest stable build from freepbx.org. Sangoma has packaged their own build of Linux, based on CentOS, along with Asterisk and the FreePBX system and it's all installed through one process. Burn the ISO to a CD or USB drive and boot your system off that image. The process is GUI-based and straightforward. In most cases you can accept the default or recommended selections.

We recommend building two systems. These can be set up in what FreePBX calls a “warm spare” configuration. The main system automatically sends a complete config backup to the warm spare on a regular basis, including voicemail messages and faxes, and in the event of a failure of the main system, you only need to change the IP address of the warm spare and you're back up and running having lost virtually nothing.

In Dallas, we have three systems. One for our office lines, one for all of the radio station and Reach Media studio lines, and a spare we can use to backup either main system.

With fewer people in the office for most of us in the radio business, and with companies like Avaya sunsetting support for their legacy phone systems, now might be a good time to get rid of the mammoth old-school phone system and bring in a VoIP-based system like Asterisk/FreePBX that is easy and inexpensive, but has all the features of traditional PBX systems and many more.

You can build a system in a few hours. There is plenty of free online support, as is typical with open source software. You'll find thousands of searchable questions and answers on the FreePBX community forums and other sites. Paid support is available if you need it.

Happy PBXing! 🐸

“ We recommend building two systems. These can be set up in what FreePBX calls a ‘warm spare’ configuration. ”

```
Sangoma Linux 7 (Core) (x86_64)
Kernel version 3.18.8-1127.19.1.el7.x86_64

freepbx login: root
Password:

FreePBX

NOTICE! You have 2 notifications! Please log into the UI to see them!
Current Network Configuration

+-----+-----+-----+
| Interface | MAC Address | IP Addresses |
+-----+-----+-----+
| eth0      | 94:85:B6:00:00:00 | 10.10.10.10 |
| eth1      | 88:22:4D:00:00:00 | 10.10.10.10 |
+-----+-----+-----+

Please note most tasks should be handled through the GUI.
You can access the GUI by typing one of the above IPs in to your web browser.
For support please visit:
http://www.freepbx.org/support-and-professional-services

-----
| This machine is not activated. Activating your system ensures that |
| your machine is eligible for support and that it has the ability to |
| install Commercial Modules. |
| If you already have a Deployment ID for this machine, simply run: |
| |
| fwconsole sysadmin activate deploymentid |
| |
| to assign that Deployment ID to this system. If this system is new, |
| please go to Activation (which is on the System Admin page in the |
| Web UI) and create a new Deployment there. |
| |
+-----+

[root@freepbx ~]#
```

Above
The FreePBX
command line
logon message



FreePBX



Asterisk™



Mark Lapidus

is a veteran multi-platform media and marketing executive. Nevertheless he wrote about cicadas in his previous column.



Photo by Seymour Wally/NY Daily News Archive via Getty Images

Radio is well positioned for shot advocacy

Here are some ways your station can help

American patriotism does not belong to a political party. Do you disagree? Or perhaps discussion of this topic makes you uncomfortable? At least I've got you thinking about what it means to live in a democratic society.

Here's a gut punch: Is getting the COVID-19 vaccine patriotic?

Medical authorities and most Americans say the "jab" is the only real way out of the pandemic. Some though feel that being coerced into vaccination is wrong in a free society, or believe the vaccine is not as safe as others Americans commonly get.

Not taking a stance on vaccination or being loud with encouraging messaging is a choice your radio station must discuss internally, if it hasn't already, because this issue still hovers over our entire country as we seek to climb out of isolation, unemployment and fear.

Even at less-than-perfect efficacy, it is clear that vaccinations work beautifully

to stem the tide. Not taking a stance is a choice, but your upper management should at least do so consciously instead of passively.

Beyond the mask

We all understand that when stations take political positions, as talk radio does, a specific form of politics will echo through the attitude the station projects. And unless you've been living under a rock, it's especially true in these times of "identity politics."

However, this vaccination question — especially locally — is so important that avoiding the topic does not give even talk stations a pass. In fact, the issue should be debated regularly on the air. From what I've been hearing, the talk corner of the dial is not fully rejecting the idea of vaccination. Some on-air personalities and many listeners are open to it.

While masks remain important, we're not just talking about those anymore.

The more people who are vaccinated, the closer we are to the herd immunity that we need to compensate

Above
What would Elvis do? Here, the King receives a polio vaccination from Dr. Leona Baumgartner and Dr. Harold Furst at CBS Studio 50 in New York in 1956.

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for those who cannot be vaccinated for medical or well-established religious reasons.

If nothing else, it's time to clue in vaccine skeptics that, while the jab is a choice, there will certainly be personal repercussions of rejecting it.

Depending on particular state law, some companies and entertainment or dining venues may employ or admit only those who hold vaccine certification. There will be much debate and angst about the right of the individual vs. the right of a business to protect its customers. Even so, some domestic and most international travel without vaccination proof will be restricted.

And perhaps most important, beating back COVID-19 will most certainly affect in-person school attendance. Our country needs our kids safely back in school more than ever. If necessary, do good research to bust the myths using information from your local health department.

Idea list

For stations ready to go all-in with encouragement, here are kickstarter ideas.

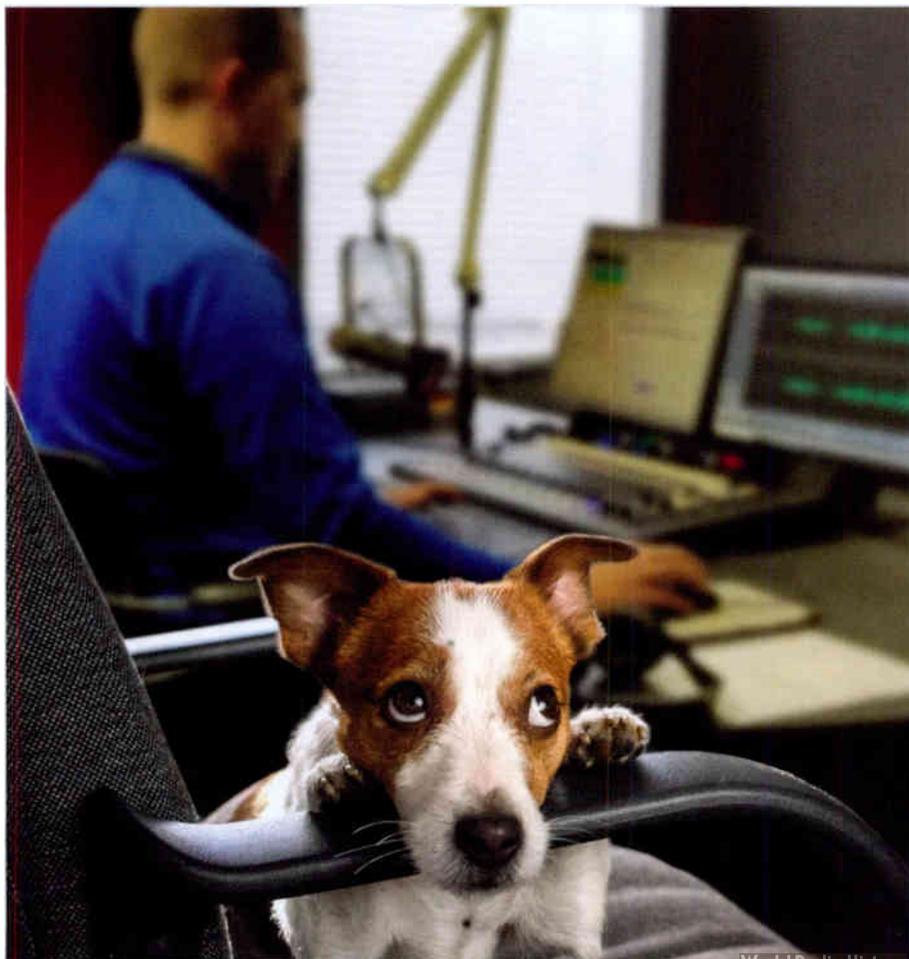
Showcase short sound bites of your own on-air personalities saying that they got the shot with local places now taking appointments. If you can get format stars or other local celebrities to do this too, it will amplify the effect. Consider promos with stats and studies showing that vaccination is safe. Interview well-known local doctors,

along with little-league coaches, youth advocates who want open schools and public health, cultural and other community leaders.

Go for community rather than government. If there's a mass-vaccination place like a stadium, do live remotes or regular cut-ins with updates on wait times and interviews with locals who just got the shot. Highlight local business owners who want to encourage people to vaccinate so that they can fully reopen. If you're able to obtain the percentage number of vaccinations in your city or county, highlight this percentage daily, or weekly, to show progress.

When you start to dive into all the things a station can do, the list gets long. In your heart you surely know that this type of advocacy is something radio stations do very well. Radio is the ideal platform for propagating community health and well-being. What could be more patriotic? **R**

“ Interview well-known local doctors, coaches and other community leaders. ”



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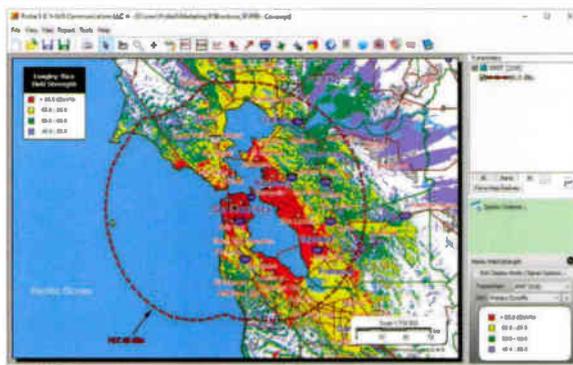
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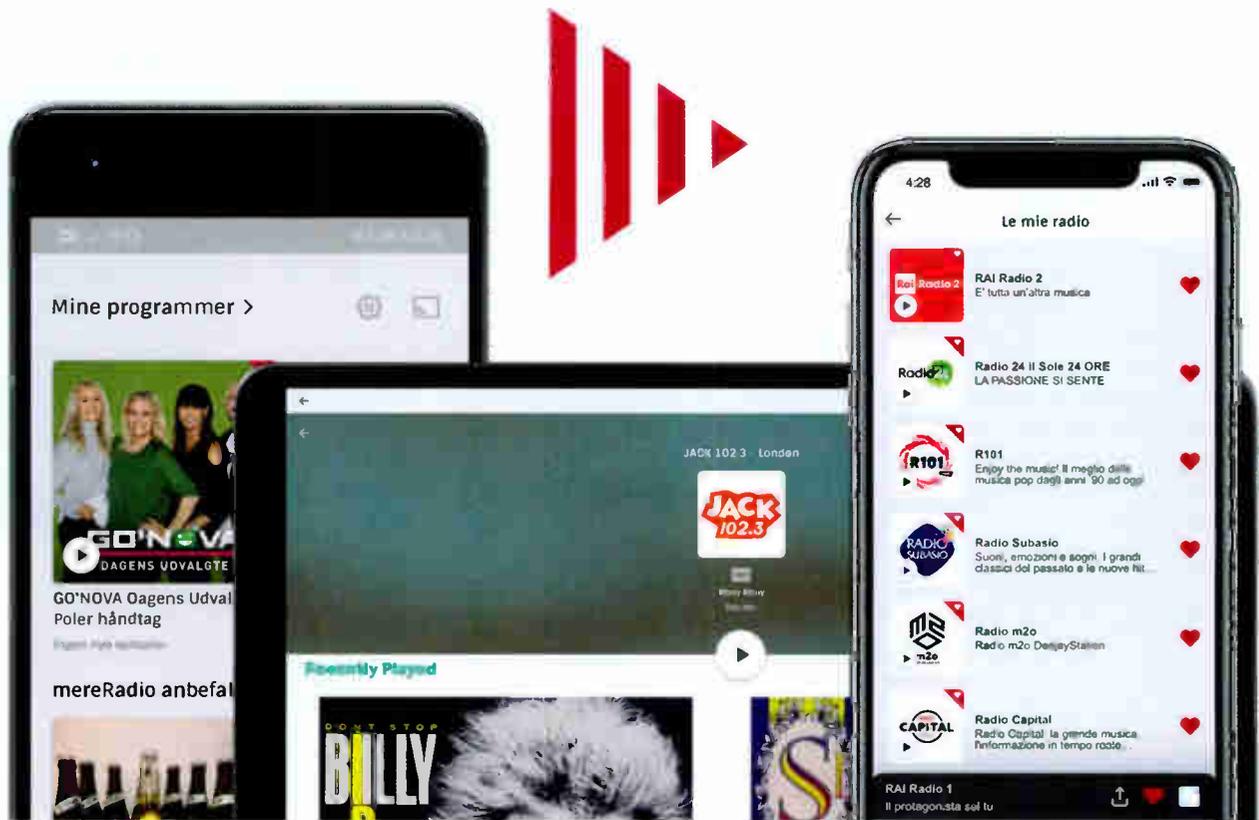
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Writer
Lawrence
Galkoff

General manager of Radioplayer Worldwide, responsible for all Radioplayer countries outside the UK.



Comment
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Radioplayer continues to grow across Europe

Defying the lockdown, platform has spent the past year adding countries

Radioplayer, the not-for-profit, broadcaster-owned and -operated aggregator platform, has spent the lockdown period adding new countries across Europe and increasing audience reach.

Radioplayer is a unique initiative where broadcasters have come together to fund a joint platform where they can 'Collaborate on technology and compete on content' ensuring that their content is available in one place just like on the radio.

Radioplayer aims to keep the user interface simple while focusing on a highly rated user experience.

Remarkable year

Radio has been incredibly lucky over the past year. With many people confined to home, listenership internationally has increased as people appreciate the companionship that radio offers as well as access to local and highly trusted information. During a national crisis, trusted news from where you are is vital.

Perhaps surprisingly, when coronavirus forced people to stay at home, Radioplayer saw large increases in online listening on all its platforms internationally.

Despite being at home, people were accessing radio via their computers, phones, tablets, TVs and smart speakers which nowadays are the new radios, especially with the younger demographics that are so important for radio's future.

It is almost 10 years now since the BBC and commercial radio in the UK saw the advantage of working together on a shared platform and Radioplayer was born.

Norway and Belgium liked what they saw and joined the UK. Radioplayer grew across western Europe and nearly four years ago Canadian broadcasters joined the family.

However, the rate of growth in the last year has been something else. In the early stages of the pandemic last year, Radioplayer Italia launched and in November it was the turn of the Netherlands. Sweden was due to launch as of this writing, followed not far behind by Radioplayer France.

Above
Radioplayer has integrations with car companies like Audi and VW, smart-speaker platforms like Amazon Echo, Sonos and Bose, and apps for iOS and Android, which work with Apple CarPlay, Android Auto, Chromecast, Airplay, Apple Watch, Android Wear and other technologies.

Three pillars

In each country, Radioplayer is licensed to a local organization running a not-for-profit platform in that country on behalf of the broadcasters there. We are run by broadcasters, for broadcasters.

And that is the real secret of Radioplayer, the ability to pick up the phone and speak directly to the key personnel at every member broadcaster ensures that Radioplayer can represent the radio industry across the private and public service spectrums like no other organization.

Radioplayer has three main pillars to its customer facing platforms.

The first is automotive, where radio has long dominated the car dashboard and, not surprisingly, does not want to lose its prominence. The dashboard is joined by smart speakers and connected devices and by the traditional platforms of apps and web players.

Countries are free to choose what products are launched locally. Radioplayer products place the smallest of stations on the same level as their much bigger and better resourced cousins. A country could also choose to join Radioplayer only for our automotive business-to-business work.

Equally important though is the power of the Radioplayer collaboration.

With many of the world's biggest broadcasters sitting around the Radioplayer table, Radioplayer can speak with a single industry voice to the automotive sector as well as the platforms that carry live and on demand radio. They know that when they speak to Radioplayer, they are speaking to the much wider industry in one conversation.

They also know that through the WRAPI (the Worldwide Radioplayer API), they have access to live and accurate metadata from thousands of broadcasters as well as



Above
Radioplayer has been running an ad campaign in the UK based around the future of radio in the car.

streams and content that come from trusted, licensed broadcasters. The car companies and platforms don't need to worry about sports or music rights because this is official broadcaster content.

Radioplayer's work with car companies is growing. We have been partnering with Audi/VW Group since 2017 to power their amazing hybrid radio experience with more to follow.

Our partnership model is unique in the automotive world and involves a direct collaboration with broadcasters to keep radio strong and prominent in connected car dashboards. For Radioplayer, this is about the broadcast/hybrid radio experience when a driver or passenger presses the button marked "radio."

This is founded on the use of our official broadcaster metadata via the WRAPI but also includes technology and design support, requirements to meet certain user experience criteria and collaboration on development of the future radio experience. Radioplayer is currently running an ad campaign in the UK based around the future of radio in the car.

The hybrid radio experience that Radioplayer champions is platform-agnostic so it doesn't matter if your over-the-air transmissions are FM, DAB or HD Radio or a mixture. One of our user experience rules states that over the air transmissions, where available, will always be favored over IP saving both broadcasters and listeners from unnecessary data costs.

Despite recent successes, the Radioplayer team is not sitting back. Conversations are taking place with more new countries as broadcasters realize how important it is to add their voice to the industry conversation.

Radioplayer stations reach an audience of approaching 400 million people in Europe and Canada and serve around 80% of radio listening in those regions so not surprisingly the Radioplayer team are spreading their sights wide and setting challenges in new regions and territories. 🌐

“When coronavirus forced people to stay at home, Radioplayer saw large increases in online listening on all its platforms internationally.”



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