BEST OF SHOW WINNERS — Page 15

NewBay Media

RADIOWORLD

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Up There in the Sky! It's a Bird! It's a Plane

Though cautious, radio sees drones' potential

BY RANDY J. STINE

You may soon see drones inspecting towers and carrying out other functions for radio stations.

TV news applications tend to get the headlines within the industry; but radio managers, too, are contemplating ways to use the unmanned aerial vehicles for technical and programming applications.

Broadcasters are anxious to use drones for simple tasks like newsgathering and tower inspections, industry experts say; and some observers think these flying machines could one day perform more complex operations.

Drones are referred to by the Federal

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Barry Thomas, director of engineering for Wilks Broadcast Group, with his DJI Phantom 1 drone.

Some Stations Have Already Adopted UAV Technology

These tiny aircraft could be buzzing around more broadcast towers soon

BY SCOTT FYBUSH

In 16 years of writing for Radio World, I've had my share of unusual assignments. But when Paul McLane sent me off to the NAB Show with a mission to write about how radio stations could tap into the new technology of drones, I wasn't the only one who was uncertain about how an essentially aural medium like radio could make use of the purely

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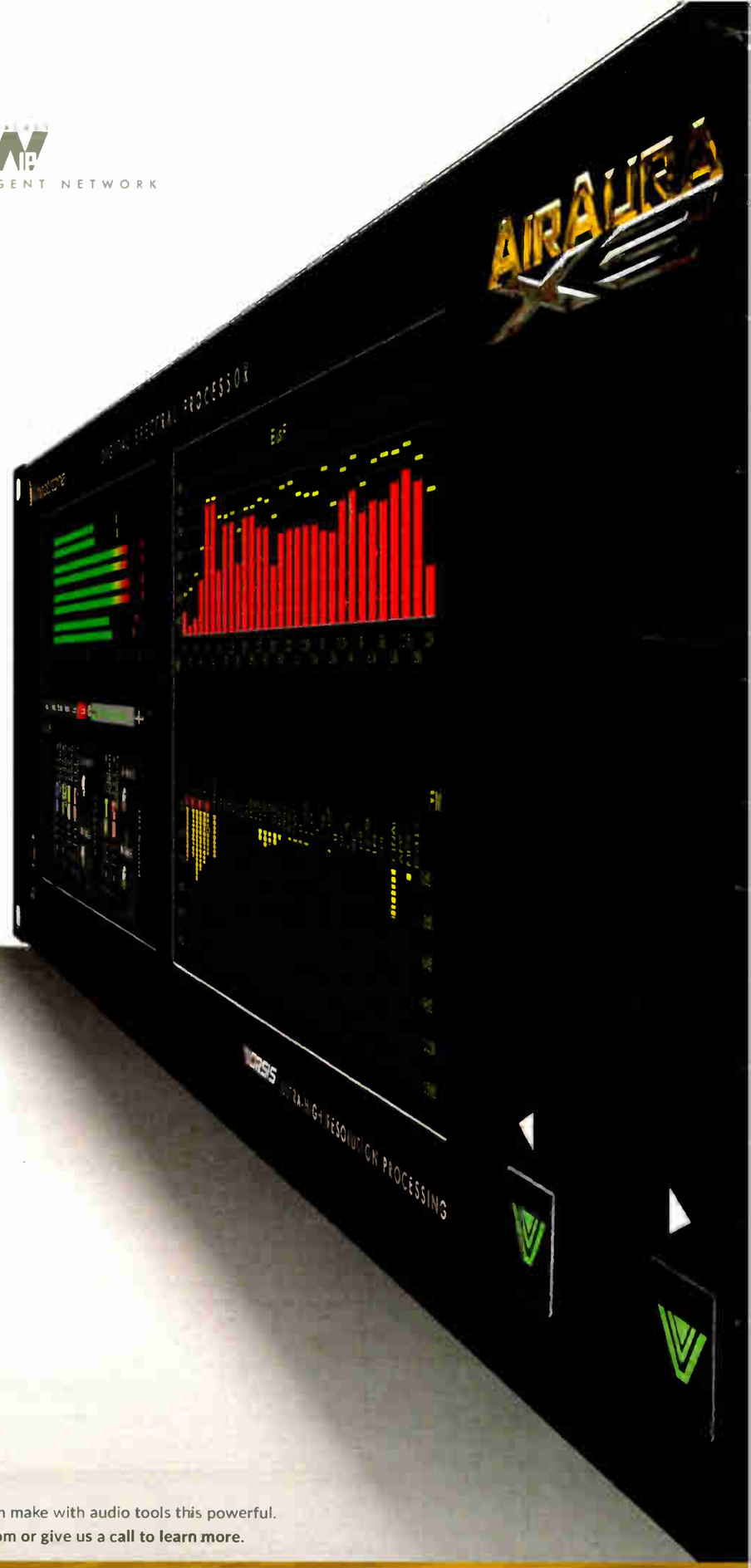

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Photos by Jim Peck

APRE Widens Definition of "Tech"

BY LESLIE STIMSON

APRE officers and board members for 2015–2016 from left: Jobie Sprinkle, Rob Byers, Robert Carroll, Shane Toven, Alice Goldfarb, Victoria St. John, Dan Houg, Jonathan Clark, Dan Mansergh and Steve Johnston. Not shown are David Antoine, John George and Pierre Lonewolf.

Attendees of the Public Radio Engineering Conference heard about audio loudness tools, LTE interference, automation and traffic best practices, disaster recovery, transmitter efficiency and more.

Some 80 technical personnel attended. That compares to about 85 in 2014 and 65 the year before.

The Association of Public Radio Engineers organizes the event; this year much of the discussion centered on the evolving nature of engineering as organizers work to involve more station technical personnel and cast a wider net for attendance.

"It's never been closed to people other than engineers," said new APRE President Dan Houg; but organizers have begun marketing PREC to other public radio departments, including operations and development. The board is soliciting session topic suggestions for next year's conference.

What spurred a widened outreach was a recognition that "our distinct little niches are melding together" in public radio, Houg said. Now, those involved with station technical operations must have a skillset that includes IT, programming and security, as well as RF and audio. "Years ago, only the engineer touched the automation system; that's changing." For instance, when Vermont Public Radio Director of Engineering Rich Parker left for a similar position at Coast Alaska last year, VPR Operations Director Victoria St. John took over programming its ENCO radio automation software.

Houg, who's the chief engineer at FMs KAXE and KBXE in Grand Rapids and Bemidji, Minn., said a similar evolution has happened at his stations; now the program director helps program the automation system. "You need more than one brain and one set of eyes on automation," he said in an interview after the show.

This year's PREC was held in a new venue, the Tuscany Suites in Las Vegas, prior to the spring NAB Show. Among the highlights of the 15th PREC:

HOUG LEADS APRE

Houg is the new president of the volunteer organization; he had been secretary. He succeeds Jobie Sprinkle, director of engineering/IT for WFAE(FM), Charlotte, N.C.

WWNO(FM), New Orleans CE Robert Carroll is now secretary.

David Antoine, director of broadcast IT at Westwood One, remains vice president. He's former chief engineer at public station WBGO(FM), Newark, N.J., and keeps his hand in public radio engineering with contract work for a couple of college stations, he tells Radio World.

VPR's Victoria St. John is now treasurer, taking over from Shane Toven, marketing manager with The Telos Alliance. Toven is former director of engineering for Wyoming Public Media and former editor of Radio Magazine.

Joining the board for three-year terms are Rob Byers, interim director of broadcast and media operations, Marketplace, American Public Media; John George, technical manager at WUSC(FM), Columbia, S.C., and sales engineer for RF Specialties; Steve Johnston, director of engineering and operations at Wisconsin Public Radio; and Pierre Lonewolf, chief engineer, Kotzebue Broadcasting, Kotzebue, Alaska.

The board changes became effective at the Public Radio Engineering Conference.

They join Alice Goldfarb, technical researcher for NPR Labs; Jonathan Clark, sales manager at Shively Labs; Dan Mansergh, director of radio engineering and media technology of KQED(FM), San Francisco.

Mike Starling, general manager and chief engineer of WHCP(LP) in Cambridge, Md., remains counsel for the organization.

COST-SAVINGS A PLUS

The cost of this year's event was about half that of last year's meeting at Caesar's, according to Houg. That means APRE is able to go into planning for the 2016 event "with enough reserves to pay" at least some of its bills up front, he said.

This will put the organization in a better position to offer scholarships again. Details are to be worked out, "but we are pleased to have a mechanism that will help a station send someone to the PREC that may not otherwise be able to afford it."

Houg was a scholarship recipient when he attended his first PREC in 2006. "It made all the difference and it was really impactful," he said. He began working at KAXE(FM), Grand Rapids, Minn., in 2004. KBXE(FM), Bemidji, was a new build. The stations, 80 miles apart, air the same programming. "We have the ability to control the programming from both studios and switch [control] back and forth depending on where the staff is."

"It really helps getting to know people at the company whose equipment you'll be using, and when you call up, you're talking" to the person you met face to face, according to Houg.

The board intends to rebook the PREC at the Tuscany for 2016.

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FROM THE EDITOR

In May, the Society of Broadcast Engineers sent a letter to FCC Chairman Wheeler about the proposed Enforcement Bureau restructuring, saying the plan "should be revisited following an opportunity for input by the stakeholders." It states the concerns of engineers so well that I share major excerpts here. The letter is from SBE President Joseph Snelson, CPBE, 8-VSB.

SBE to FCC: Don't Close Field Offices

What President Joe Snelson told Commission Chairman Tom Wheeler

Dear Chairman Wheeler: It is my honor to serve as president of the Society of Broadcast Engineers Inc., a Washington, D.C., nonprofit association of broadcast and telecommunications professionals. I am writing you today because SBE's Board of Directors and its membership of more than 5,000 technical professionals are very much concerned about the current proposal of the commission's managing director and its Enforcement Bureau chief to reduce by two-thirds the number and distribution of FCC field offices and to reduce by approximately half the number of commission staff in those offices. …

Historically, broadcast engineers have had a close, positive and constructive working relationship with those field offices and with the very knowledgeable staff that is consistently responsive to the interference issues brought to them in real time. The field offices are already operating at well below efficient levels due to the longer-term effects of hiring freezes and attrition in the offices due to retirement of experienced staff. It is SBE's view that the draconian cuts proposed now will have a substantially adverse effect on compliance in virtually all radio services. It will make the job of SBE's volunteer frequency coordinators who facilitate sharing of broadcast and cable auxiliary spectrum between and among broadcasters and government agencies exceptionally difficult if not impossible …

iStockphoto/FangXiaNuo

"FUNDAMENTALLY UNFAIR"

SBE is fully aware that the commission is not statutorily obligated to consult the public before implementing an internal reorganization. … However, it is fundamentally unfair to those of us who stand to be profoundly adversely affected by a commission restructuring proposal to have no input into the process whatsoever. In this case, the contractor that the commission retained to examine the Enforcement Bureau's operations and to make recommendations claimed to have contacted a wide variety of stakeholders in the process of developing its proposal. … No contact has been made by the contractor, however, with any representative of SBE or of the broadcast engineering community to the present time. You testified on April 30, 2015 before the House Subcommittee on Communications and Technology of the Committee on Energy and Commerce that "… thanks to the commission's process reforms, the agen-

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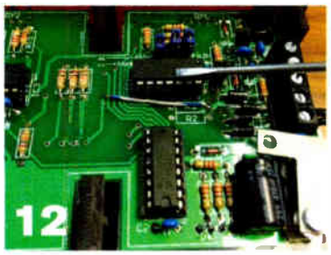

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Photo by Jim Peck

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PUBLIC ENGINEERS

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NPR LABS UPDATE

NPR Labs has several ongoing projects. Here are some of the most notable.

• A booster design project is underway for KPCC(FM), Pasadena, Calif. The station's Class B primary transmitter is on top of Mt. Wilson, but unlike other grandfathered stations there its ERP is de-rated to 600 watts. By the time the signal has traveled 25 miles, it is too weakened to penetrate indoors, especially homes in the hills of Brentwood and the Pacific Palisades. To remedy this, NPR Labs studied the potential coverage and multipath effects from office buildings in downtown Santa Monica. All the buildings under consideration have rooftop heliports, which makes antenna design and placement challenging for a two-sector booster.

• A recently completed study conducted for the Consumer Electronics Association involved development of an intelligent audio loudness management system which could be used in cars, home stereos and even smartphone ear buds. Labs personnel studied how much listeners turned up the volume to compensate for realistic noise environments they were listening in, from a quiet office, an average restaurant, the cabin noise in a car, to riding mass transit. Within about twenty seconds, subjects established preferred listening levels in comparison to the ambient noise levels, which led to formulas that could manage playback loudness for listeners. One of the takeaways — most people accepted (seemed to like) a natural variation in program loudness. Often, they could have compensated for the variation in loudness by turning up the volume knob, but didn't.

This dovetails with a study on preferred consumer listening levels for streamed audio that we've reported on.

• For the National Radio Systems Committee, NPR Labs is conducting a compatibility study of Modulation Dependent Carrier Level with AM HD Radio. They are testing if there's a difference with static (fixed IBOC sideband) or dynamic (IBOC sidebands track with the AM carrier) control. AM stations can use MDCL to control power levels according to AM modulation and save on electric bills, we've reported.

• Stations have told NPR Labs they're increasingly concerned about the harmonic emissions from their FM facilities when 4G/LTE base stations build nearby. These new cellular facilities receive at extremely low signal powers. Later this year, NPR Labs plans to produce a "best practices" report on measurement and control of out-of-band emissions based on study of field cases.

RALPH WOODS HONORED

APRE also honored Ralph Woods, former NPR deputy director of operations, with its Engineering Achievement Award. The honor, voted on by APRE members, recognizes Wood's meritorious career of service to public radio engineering.

Woods managed the Public Radio Satellite System's 24/7 Network Operations Center from 1982 to 2014. For more than 30 years, he oversaw the daily activities of the NOC in addition to numerous PRSS projects to modernize and expand the services in support of its stations and program producers, according to APRE.

Photos by Jim Peck

Ralph Woods, former NPR deputy director of operations, is the 2015 recipient of the APRE Engineering Achievement Award.

Woods' contributions to public radio engineering are "significant, consistent and unheralded," his peers wrote on his nomination form. "Ralph was always pushing for backup procedures and increased services to ensure NOC operations would never be interrupted, and that options were available to all interconnected public radio stations to recover from routine outages (such as solar outage times) to major station equipment failures."

During his tenure directing NOC operations for PRSS, the NOC consistently achieved or exceeded a targeted 99 percent on-air reliability for all program feeds, according to APRE. One of his last projects before retirement in 2014 was providing operational management to maintaining uninterrupted station programming services during NPR's move to its new headquarters from Massachusetts Avenue in northwest Washington to North Capitol Street in northeast Washington in 2013.

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FIELD CLOSURES

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cy is more efficient, more transparent and more engaged with the public." The means by which the Enforcement Bureau reorganization proposal was developed, however, was anything but transparent …

"NO SENSE OF URGENCY"

SBE is in agreement with you that the field offices could perhaps make better use of the limited time and resources available to them. There is time spent by field office staff doing random station inspections; checking to see whether tower fences are locked and checking to see whether a station's public file contains all of the requisite paper documents. These types of activities are, at best, peripheral to the main function of the field offices and in fact the entire Enforcement Bureau, which is to protect the radio spectrum as a finite natural resource.

As it is, there is no sense of urgency in the commission's spectrum enforcement activities. The field offices should be targeting spectrum polluters, such as power utilities with noisy power lines, unauthorized RF lighting devices (most especially RF lighting ballasts that preclude AM broadcast reception throughout entire communities at once) and pirate broadcasting. All of these enforcement problems severely plague radio broadcasters, but the few complaints that are investigated drag on for years at a time without resolution. Broadcasters are critical of the fact that the field offices are forced to spend their limited staff time doing things that are not related to the core function of interference resolution and which seem to be premised on the desire to issue large forfeitures rather than to deter rule violations and encourage compliance. At the same time, the commission apparently has no plan at all to deal with, for example, power line noise and the increasing ambient noise levels in the AM broadcast band from unlicensed devices that stand as an absolute bar to any AM revitalization effort.

The commission's Web page currently identifies the mission of the field offices as follows:

The Enforcement Bureau's Regional and Field Offices are our "eyes and ears" on the ground. Nearly half of EB's staff is deployed in the three Regional Offices and 24 Field Offices around the country. This ubiquitous presence uniquely positions EB to assist the commission and other government agencies in resolving interference and unauthorized radio transmission cases. The Field also conducts routine on-site investigations, facilities inspections, audits of radio facilities, cable systems and antenna structures, provides disaster recovery support and assists in carrying out special priorities of the commission. In coordination with the Office of General Counsel, field agents also help the Department of Justice pursue in rem seizures of equipment used by unauthorized operators.

SBE is concerned that if the "ubiquitous presence" of FCC's "eyes and ears" disappears from most of the areas and regions where there is now at least a minimal FCC presence, there will be a marked decrease in compliance among licensees and unlicensed individuals and groups. There is inherent value in having a visible, geographically diverse commission staff presence that can respond immediately to issues of interference to broadcast, public safety, interference to air-to-ground communications, etc. …

"VISIBLE COMMISSION PRESENCE"

As broadcast engineers and licensees in other radio services know all too well, a rule violation quickly addressed in a visible manner deters others from the same activity. Successful examples of commission enforcement are all based on this deterrence theory and it works very well. However, conversely, invisibility of FCC enforcement and allowing rule violations to fester for long periods encourages other rule violators. The commission cannot prevent interference between and among radio stations and users of the RF spectrum if there is no perception of an active, visible commission presence. The commission has not been at all visible or timely in, for example, the area of pirate broadcasting enforcement. Pirate broadcasting is at epidemic levels, most especially in California, Miami, New York and Boston. And the longer the pirates are allowed to broadcast undaunted, the more pirate broadcasting there will be. The closing of two-thirds of the field offices is antithetical to creating a level of deterrence that would keep pirate broadcasting at a maintenance level.

It is SBE's view that the draconian cuts proposed now will have a substantially adverse effect on compliance in virtually all radio services.

The EB's deputy chief was recently quoted as saying that the $21 million it allegedly costs to keep the field offices and employees and equipment at current levels is too expensive and field office staffers have "too little work to do." That is completely at variance with our current understanding of the level of workload of the field office staff; our understanding of the circumstances is that the offices' staffs are spread so thin as it is that they don't have time to do anything but the highest priority spectrum enforcement field work. While we are sympathetic to a goal of reducing the level of managers in the field offices, there are numerous alternatives to reducing the geographic distribution of commission staff in the field, none of which seem to have been considered by your contractor. SBE is not overly concerned about the offices themselves or the managers of those offices, but we are very much opposed to the reduction in the number of technical staff in the field. The commission allows its Washington staff to telecommute and there is no reason why the field office technical staff should not be permitted to work from residences or limited office facilities with direct reporting arrangements with the regional offices but with a greater degree of autonomy than heretofore. In this way the visibility of the commission can be preserved while reducing costs. This is but one idea. There are others that should be considered in a transparent process.

SBE would offer its resources as a partner in this process and we look forward to a dialogue with the Enforcement Bureau. We urge in the strongest terms, however, to avoid a rush to judgment in this process, which is irreversible and one that the commission cannot afford to get wrong.

Comment on this or any article. Write to radioworld@nbmedia.com *with Letter to the Editor in the subject field.*

NEWSROUNDUP

EAS: iHeartCommunications will pay a $1 million civil penalty to resolve an FCC investigation into misuse of EAS tones on "The Bobby Bones Show." In October 2014, iHeart's WSIX(FM) in Nashville, Tenn. aired a false emergency alert during the broadcast of the nationally syndicated program. Airing real EAS tones for anything other than an emergency or test is prohibited. The tones on WSIX were transmitted to more than 70 affiliates; some of the stations re-transmitted the tones, setting off a multi-state cascade of false EAS alerts on radios and televisions in multiple states, according to the commission. As part of its settlement, iHeart admitted wrongdoing. In addition to the fine, the broadcaster agreed to implement a three-year compliance and reporting plan and to delete all simulated or actual EAS tones from the company's audio production libraries.

PANDORA: Pandora plans to acquire online music analytics company Next Big Sound. The purchase price was not disclosed. Launched in 2009, Next Big Sound combines music consumption data into one centralized platform. Next Big Sound will add Pandora data on music preferences, patterns and trends to its offerings.

FCC REFORM: The House Communications and Technology Subcommittee sent seven FCC process reform bills to the full Energy and Commerce Committee on May 20 for consideration. The linchpin bill, the FCC Process Reform Act — from Subcommittee Chairman Greg Walden (R-Ore.), Ranking Member Anna Eshoo (D-Calif.) and Rep. Adam Kinzinger (R-Ill.) — would direct the commission to enact several policies aimed at making its decision-making process more visible to the public. It would have the FCC adopt set minimum periods for public comment, establish policies for handling comments that come in late, and direct the agency to take action on several other transparency-related items.

ROSENWORCEL: The White House said President Obama would nominate Jessica Rosenworcel for another term as an FCC commissioner. She was nominated to the FCC in 2011 and confirmed and sworn into office the next year. Prior, she was senior communications counsel to the Senate Commerce Committee under Chairman John D. Rockefeller IV and previously under Chairman Daniel Inouye. Before working on the Hill, Rosenworcel played several roles at the FCC, including legal advisor to then-Commissioner Michael Copps and legal counsel to the chief of the Wireline Competition Bureau. Her term expires this summer, and the Senate must confirm her renomination.

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DRONES

(continued from page 1)

Aviation Administration as unmanned aircraft systems, or UAS. They are controlled by a pilot on the ground, or the device may be pre-programmed to follow a certain flight plan.

The commercial use of these airborne assets, which are regulated by the FAA, requires a special use permit. The FAA also requires operators of commercial drones to attend a drone flight training class approved by the government agency.

Currently drones must stay within site of the operator and weigh less than 55 pounds. Operations are limited to a height of 500 feet. The FAA may soon relax its restrictions on the commercial use of drones to allow them to fly outside of the operator's line of site, according to media reports.

The FAA earlier this year announced several tests cases that could expand drone use, as Radio World reported. CNN, for example, is being allowed to test drones for newsgathering in populated areas; freight railroad company Burlington Northern Santa Fe will be allowed to fly drones outside an operator's direct line of vision in order to inspect railroad tracks.

As the technology advances and regulations are relaxed, the difficulty of a drone's assigned task could increase.

"Tower inspections are certainly one area where drones with video would be invaluable," said Stu Graham, president of broadcast technical consulting firm Graham Brock Inc. "We now, too often, stand back 300–400 feet away from an antenna and say, 'Looks good to me,' and settle for that."

He knows of no clients using one, but he perceives applications. "I can see where the use of a drone to document a tower and/or ground system installation from above — property boundaries, land clearing, FM antenna condition and beacon integrity — could be very valuable."

ANTENNA REPAIRS

Another broadcast engineering consultant speculated that drones could one day be used as an aid for broadcast antenna repairs.

"Depending on what payloads are allowed, the lifting of objects could be a real bonus in tower maintenance," this source said.

Another potential application is using drones for airborne antenna pattern measurement, said one consultant, although the requirement to keep UAS within sight of the pilot could limit its potential, given that broadcast signal measurements usually need to cover a wider area.

One of Tom Silliman's goals is to equip a drone with an infrared camera to look for hot spots in transmission lines.

Tom Silliman, president of antenna and tower provider Electronics Research Inc., spoke about drones at a National Association of Tower Erectors conference earlier this year. He said the use of UAS in the tower industry has exploded; he intends to buy one and "get the required training to use it next winter."

Silliman expects to see additional broadcast tower industry applications. "Look at the space that was used for drones at NAB in April. And a group exhibited at the NATE show this year. It's going to expand and grow."

One of Silliman's goals is to equip a drone with an infrared camera to look for hot spots in transmission lines.

"You could also use a drone to verify that the tower lights are working correctly. With the new narrow-beam LED lights, you can't tell if the lights are working correctly unless you move away from the tower."

Silliman doesn't anticipate using drones for signal strength measurements anytime soon, because of the difficulty in equipping a small craft with an antenna and signal strength meter, "but in time, it could happen."

Drones will not replace qualified tower climbers, he said, "but they will be used more and more to identify the need to send men or women up the towers for maintenance."

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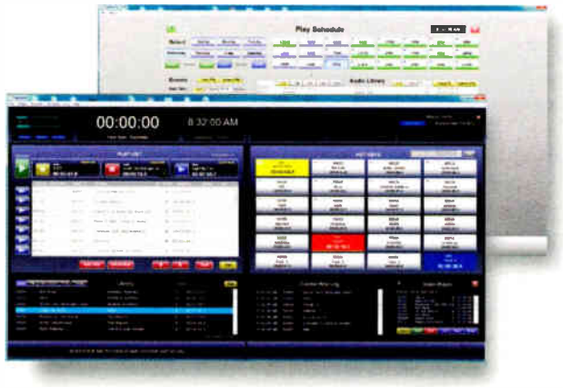

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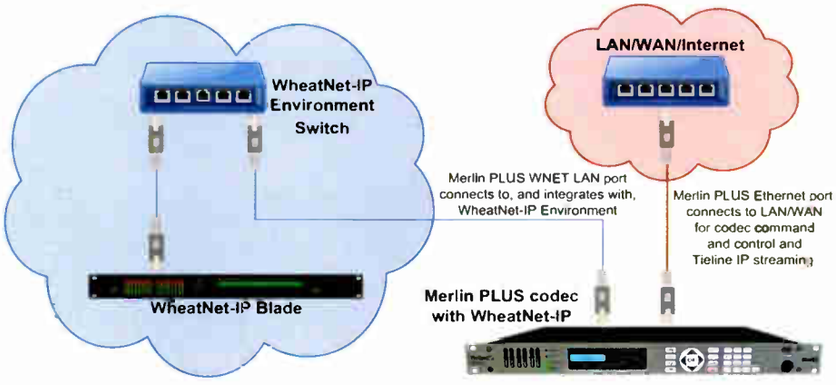

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World Radio History

DRONES

(continued from page 8)

Dave Stewart, owner of Moving Target Consulting Works and former vice president of engineering for Hispanic Broadcasting System, sees applications.

"We can use them to supervise tower crews, or to see whether tower paint goes all the way around each leg or brace." Drones can also "look for loose cables, missing or damaged clamps and rust spots."

Marty Hadfield, director of engineering at iHeartMedia's Seattle cluster, said early observation of damage to transmission lines, antennas and other tower-mounted equipment would help reduce downtime and repair costs.

He said that if the FAA develops new UAS operating guidelines for commercial and or news-gathering purposes that are less restrictive than current regulations, there would be nearly immediate use of drones by broadcasters and technical service providers.

"The possibility of short-range two-way radio or video repeaters carried aloft would provide source or relay opportunities for communications and ENG coverage of emergency or disaster conditions, where a land-based access could be prohibited by local conditions," Hadfield said.

Paul Shulins of Greater Media Boston snapped this photo with a drone to show the FM tower for the Boston cluster on top of the Prudential building.

PROFICIENCY CONCERNS

Despite excitement, it appears most broadcasters are moving cautiously when considering implementation.

Barry Thomas, director of engineering for Wilks Broadcast Group, said the company hasn't yet evaluated drones for technical purposes. "However, I've been discussing using drone-based cameras to cover station events for richer online and interactive listener experiences."

Thomas owns a DJI Phantom 1 drone with a ReplayTV camera for personal use; he agrees with others that rooftop and tower inspections are among potential applications.

"However, even with an incredibly easy-to-fly drone like the Phantom, it would take practice and skill to have enough proficiency to fly a camera platform. Particularly at tower sites where you have unusual obstacles … including overhead power lines and guy wires," Thomas said. "You have to know innately how to control the craft in tight spaces with very subtle moves."

Emmis Communications has had preliminary discussions about using drone-mounted cameras for routine and emergency tower inspections to determine the urgency of repairs, said Sam Caputa, director of radio engineering for Emmis' St. Louis cluster. In addition, drone-mounted infrared cameras could be used to identify hot spots on tower- and tall building-mounted RF and electrical systems to detect areas of potential failure, according to Caputa.

"Drone-mounted test equipment and communication receivers can also be used to take elevated measurements to analyze signal coverage patterns or to assist in resolving aircraft communications issues," he said.

Cox Media Group is not exploring using drones for radio at this time, according to Vice President of Technical Operations Dave Siegler, though it is looking at drones for its television operations. "We really see the benefits of drones as tools in news gathering for TV, and not so much for engineering work," he said.

Paul Shulins, director of technical operations for Greater Media Boston, said broadcasters must consider safety issues before using a drone near their facilities.

"The operating environment has to be considered. If the area has high RF levels, which is usually the case at a broadcast site, testing should be done to make sure the high RF fields of the licensed broadcast facility do not interfere with the operation of the drone, and that positive control can be maintained for the benefit of the safety of those on the ground, and the protection of the property within the range of the drone."

Shulins owns two drones for personal use; he said even though today's drones are reliable and sophisticated, another consideration for radio owners is liability.

"Make sure the person piloting the drone is properly qualified and uses good, common sense. That is critical."

Are you using drones? Tell us how. Email radioworld@nbmedia.com *with Letter to the Editor in the subject field.*

NEWSROUNDUP

WMAL SITE: The winning bidder for the 75-acre legacy tower site of Cumulus station WMAL(AM) in Bethesda, Md., is a partnership of luxury home builders Toll Brothers and Winchester Homes. WMAL's towers, satellite dishes and a transmitter building occupy the site. When the four-tower array — visible to Beltway traffic just outside of the nation's capital — is dismantled and everything is removed, Cumulus will lease transmission facilities elsewhere. WMAL's programming is simulcast on 105.9 MHz, Woodbridge, Va.; that location is unaffected by the site sale.

TEXTING: Using Zipwhip technology, listeners can more easily text Beasley's studio and call-in lines in 18 stations across five markets: Tampa and Fort Myers, Fla., Las Vegas, and Charlotte and Fayetteville, N.C. The cloud texting technology enables the stations to send and receive texts using their existing call-in request lines and studio lines, phone numbers listeners are familiar with, eliminating the need to remember a short code.

RADIO MARTÍ: May 20 marked the 30th anniversary for Radio Martí broadcasts of news and information to the island nation of Cuba. Radio Martí shared an historic timeline, photos and articles on *martinoticias.com* and aired special programming. The Cuban government tries to jam Martí broadcasts; Radio Martí says it uses a combination of high- and low-tech approaches to reach Cuban citizens, including satellite, shortwave and AM radio, online, flash drives, DVDs and mobile apps. The thaw in U.S.-Cuban relations has raised questions about Radio Martí's role.

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World Radio History

Modify a Clock to Time Talk Segments

Also, Sherlock Holmes would be proud

WORKBENCH
by John Bisset
Read more Workbench articles online at radioworld.com

One of his cluster's program directors asked Bruce Roberts, director of engineering for Apex Broadcasting in Charleston, S.C., to build a "shot clock" like the one used in basketball. The PD wanted to allow studio talent to have a big display showing how long they were talking.

Fig. 1: Bruce Roberts uses a large 2-1/4-inch clock module to time talk segments.

In the old days, many clocks would count seconds only if you held the correct sequence of Set pushbuttons. Bruce found that clocks sold today use a programmable Peripheral Interface Controller. The PIC tells the clock and the buttons what to do.

So he and his staff ordered a clock module from the Velleman Store, as shown in Fig. 1. It's a large 2-1/4-inch clock display (*www.vellemanstore.com/en*, search for part K8089).

With the help of a PIC programmer and experiment board, also from Velleman (part K8048), Bruce's head IT guy, Andy Power, rewrote the PIC code — written in MPlab — to make the clock count *up* in seconds; and at the four-minute mark it will begin to flash, to alert the talent that they are over time for the segment.

Andy was able to program one of the clock buttons to start the timer count running, and when released, it will hold time for that segment until the button is pressed again. If tied to the control room on-air light controller, operation is automatic and resets each time the microphone is turned on. Andy decided to use the jumpers on the clock to provide the option of beginning the flash at 1, 2, 3, 4 or 5 minutes, depending on the jumper setting.

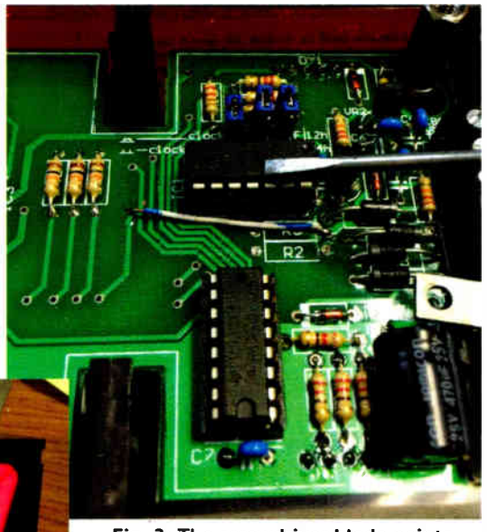

Fig. 2: The screwdriver blade points to the PIC, which controls the clock.

The screwdriver blade in Fig. 2 points to the PIC chip.

The large clock module costs $89.95; the PIC programmer and experimenter board is just $24.95.

A countdown clock like this helps the talent stay on schedule. This is a nice feature to offer your PD, especially if you run a talk/music morning show.

Thanks, Bruce and Andy, for sharing this great idea.

Workbench readers have turned into super-sleuths. We're going to have to find some older studio photographs to challenge you further!

Read Burgan is the latest to write in about the earlier studio photo we shared. He said it is remotely possible that the photo was from 1967, but unlikely. Why? The tape recorder in the photo is almost certainly an Ampex AG-600, the transistorized two-speed version of that model; it didn't come out until 1967. The station might have purchased one the first year it was introduced, but it is more likely that the photo was later than that.

Project Engineer Dan Slentz, a fellow RW contributor, writes in with some sad news. The FCC no longer routinely issues paper license documents to amateur radio applicants and licensees. The commission maintains that the official amateur radio license authorization is the electronic record that exists in its Universal Licensing System, although the FCC routinely had continued to print and mail hard copy licenses until the middle of February.

The commission will continue to provide paper license documents to licensees who notify it that they prefer one. Otherwise, licensees will be able to print out an official authorization — as well as an unofficial "reference copy" — from the ULS License Manager.

Crawford Broadcasting Director of Engineering Cris Alexander, another Radio World veteran, passes along a reminder for AM directionals.

Stations using Method of Moment sample systems may need to perform a biennial recertification in the coming months. This is one of those measurements, like the annual occupied bandwidth measurements, that can be overlooked.

Cris wrote a thorough article reviewing this topic in February 2014 titled "Don't Forget Those Recertification Measurements." Visit *radioworld.com* and enter "recertification measurements" in the search field.

Contribute to Workbench. You'll help your fellow engineers and qualify for SBE recertification credit. Send Workbench tips to johnpbisset@gmail.com. *Fax to (603) 472-4944.*

Author John Bisset has spent 45 years in the broadcasting industry and is still learning. He handles West Coast sales for the Telos Alliance. He is SBE Certified and is a past recipient of the SBE's Educator of the Year Award.

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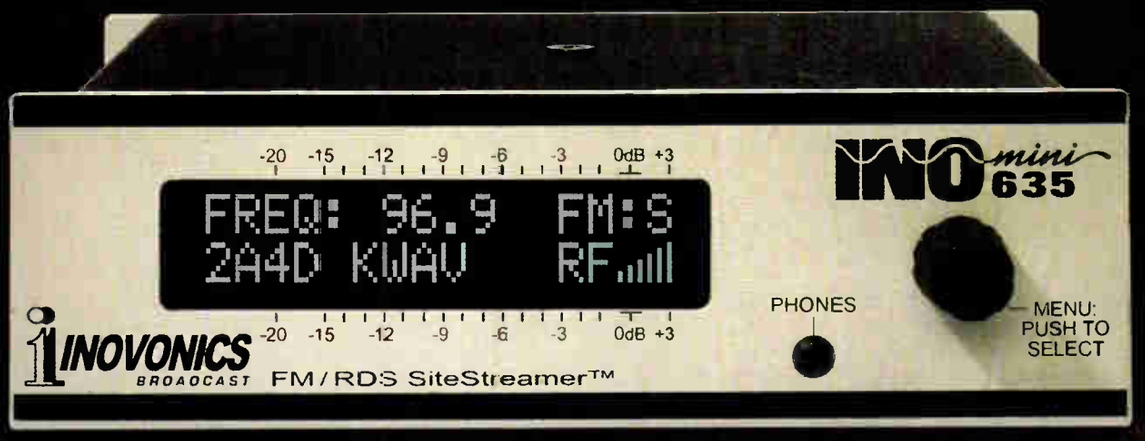

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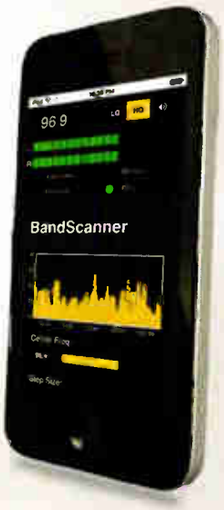

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World Radio History

UAV

(continued from page 1)

visual sizzle delivered by the unmanned aerial vehicles that were the hottest thing going on the NAB Show floor.

If you were in Las Vegas, you couldn't miss them.

In addition to an entire drone pavilion in South Hall, the convention center was full of vendors showing off interesting ways that UAVs could help with video production. Upstairs in the meeting rooms, a big chunk of the Broadcast Engineering Conference schedule was devoted to sessions exploring the ins and outs of UAV law and technology.

As crowded as the drone pavilion was, and as full as the sessions were, it was mostly TV and video folks — so much so that when I asked some of the drone vendors about whether radio people had been stopping by, you'd almost think I was asking if I had two heads.

Dig a little deeper, though, and there are indeed a handful of radio people working hard to stay ahead of the UAV curve. It was no surprise, for instance, to look a row ahead at one drone session and see someone from WTOP(FM) in Washington, Hubbard's all-news station, which prides itself on staying at the technological cutting edge.

"We consider ourselves to be more of a multiplatform news organization instead of just a radio station," says Brian Oliger, WTOP's manager of broadcast and news technology. "And so we're looking from a digital perspective, can we use it on the Web and on other digital platforms?" That's likely to mean lots of streaming video on WTOP's website and mobile apps.

The view from a drone hovering over a KFI training session in Burbank, as assistant PD Neil Saavedra and reporter Steve Gregory receive instruction from Mike Rivard and Tim Baur of RADFLIGHT.

COVERAGE

On the West Coast, KFI(AM) has made an even bigger commitment to UAVs. "We jumped all in," says Assistant PD Neil Saavedra of the iHeart talker's decision to buy drones for each of its field reporters.

That's a particularly gutsy move to make right now: As far as the FAA is concerned, there remains an official prohibition on any commercial use of UAVs. But under heavy pressure from all sorts of potential commercial users, including real estate agents, farmers and, yes, broadcasters, the FAA has already issued a handful of waivers and plans to modify its rules for all users as early as 2016, allowing at least some commercial drone activity to get underway.

"One of the best things you can do as a station is to train your people now so that when the FAA says you're ready, you're ready to go," said Ron Futrell of ArrowData, one of the presenters at an all-day "UAVs in Broadcast" session at the NAB Show.

That's just what Saavedra is doing as the captain of KFI's nascent drone team. Until his reporters can go out and use drones at work, they're learning the nuances of UAV operation through a series of training sessions.

"It's cool to see our reporters already thinking about this," Saavedra says. "They come back to us, saying, 'Hey, I was out at this story, and all I could think about was how I would cover it with a drone.'" In addition to learning the mechanics of flying, KFI's reporters are also being trained in the art of videography, so they can make the most of their new viewpoints.

"We think so much about radio, we've always been about the word picture, but that's not the case now," Saavedra says. For KFI, that could mean even greater versatility than its TV competitors now enjoy with their ubiquitous news helicopters. "You've got the ground perspective and the 800-foot [helicopter] perspective, and oftentimes it's that middle perspective that we're missing. For safety reasons, we'd love to be able to push in a little closer without putting our reporters in harm's way."

As rules for UAVs in newsgathering are developed, Saavedra says KFI is trying hard to be a part of that process. The station meets regularly with aviation experts from the Los Angeles Police Department and other area agencies. "They've been incredibly supportive because they want us to write the book on how it's used," Saavedra says.

In a city where drones are almost certain to become a part of the tool chest for the paparazzi, privacy concerns are also looming large. "It'll be like locusts out here," Saavedra expects. "That's why we want to find that balance."

In Washington, as the rules get drafted, Oliger says another big concern will be the no-fly zones that cover much of the nation's capital. Even so, he says there are plenty of ways WTOP hopes to use UAVs, including aerial coverage of DC's frequent protest marches and, of course, another viewpoint on the market's legendary traffic jams.

Other early adopters of drone technology include WTOP's Hubbard sister station in St. Louis, WXOS(FM), which has already purchased drones to use in its sports coverage, and Alpha Media news-talk KXL(FM) in Portland, Ore., which signed a deal with an outside vendor to provide UAV services once they become legal.

As radio catches on to the drone buzz, other uses are emerging, too. If you're a promotion department at a music station, imagine a UAV view of the crowd at your big summer concert — but with safety always in mind. ("I have a personal rule never to fly over anything I'm not comfortable crashing into," says Joe Herbert, creative director at Multicopter Warehouse, one of the drone vendors on the NAB Show floor.)

What about the tower industry? "I'm totally excited," says Tom Fredericksen, construction project manager at Sabre Towers. "From a safety standpoint, we could monitor crews on towers."

Photos courtesy Neil Saavedra/KFI

KFI's Neil Saavedra and Steve Gregory practice their drone technique by getting an aerial view of a light fixture in the Burbank parking lot where they're getting trained.

That, of course, depends on what the final rules for commercial UAV use look like. Saavedra and others expect that the FAA will maintain its current 400-foot altitude limit for personal drones, which may not be an issue for news coverage ("You will never need to get a drone 400 feet in the air for news," Saavedra says) but wouldn't be much use for inspecting an antenna connection on a 2000-foot tower.

As those rules evolve, industry groups are becoming involved with the process. The NAB and the Radio Television Digital News Association recently filed comments supporting voluntary federal guidelines for drone newsgathering. The FAA is expected to have new rules in place by 2016, which promises to make next year's NAB Show even more interesting for those with an eye to the sky.

How might radio engineers, news people and other managers use drones? Email radioworld@nbmedia.com *with Letter to the Editor in the subject line.*

Scott Fybush (www.fybush.com) *is a longtime RW contributor who's very interested in using drones to photograph tower sites he's only seen from ground level until now.*

World Radio History

2015 BEST of SHOW RADIOWORLD

Congratulations to the winners of the 2015 NewBay Media Best of Show Awards from Radio World, shown here and on the following pages. Exhibitors submit for consideration and pay an entry fee; winners are selected by panels of engineers and editors based on descriptions provided via a nomination form as well as on judges' inspection at the convention. (My apologies in advance for subjecting you to the recurring photos of me!)

To learn about all the nominees and winners, read the NewBay Media Best of Show Program Guide; visit *radioworld.com* and click on Awards.

— Paul McLane

Photos by Jim Peck

Virtual Director
Integration with PhoneBox combines social media messages and photos with intelligent camera control, automated graphics and image/video sharing for a visually based experience. Says the company, "It's about making shareable radio." Dan McQuillen, right, accepts.

DVLD-1 Lightning Detector
What looks like a microphone in my hand is actually part of a system that gives advanced warning of the presence and approach of potentially hazardous lightning activity. John Ahern, left, is the company president.

HD Multiplex
More arms, more streams: Nautel described technology that would enable placement of up to 15 audio streams or stations within 600 kHz of signal bandwidth or up to nine audio streams in 400 kHz of signal bandwidth. Sharing their exuberance are Philipp Schmid, Chuck Kelly and Kevin Rodgers.

WheatNet-IP Network Edge
This box is intended as a translator between the low-latency WheatNet-IP audio network and high-latency, low-bandwidth STL connectivity systems now available to broadcast engineers. I'm with Dave Breithaupt, Jay Tyler, Darrin Paley, Kelly Parker and Steve Dove.

Professional Enterprise Streaming Audio Encoder
It uses a standard Web server for live streaming; no dedicated streaming server needed. Greg Ogonowski, left, offered the demo.

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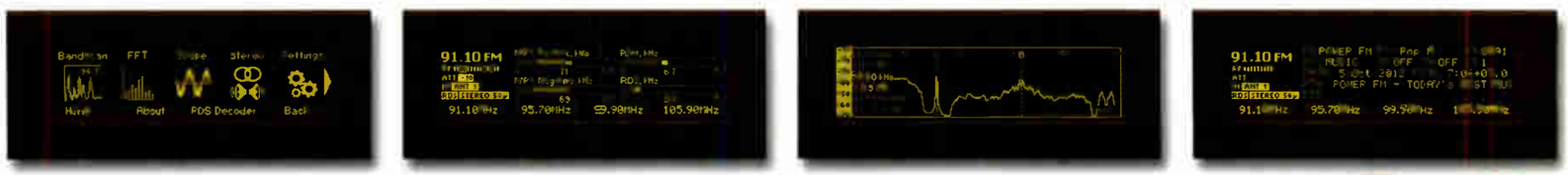

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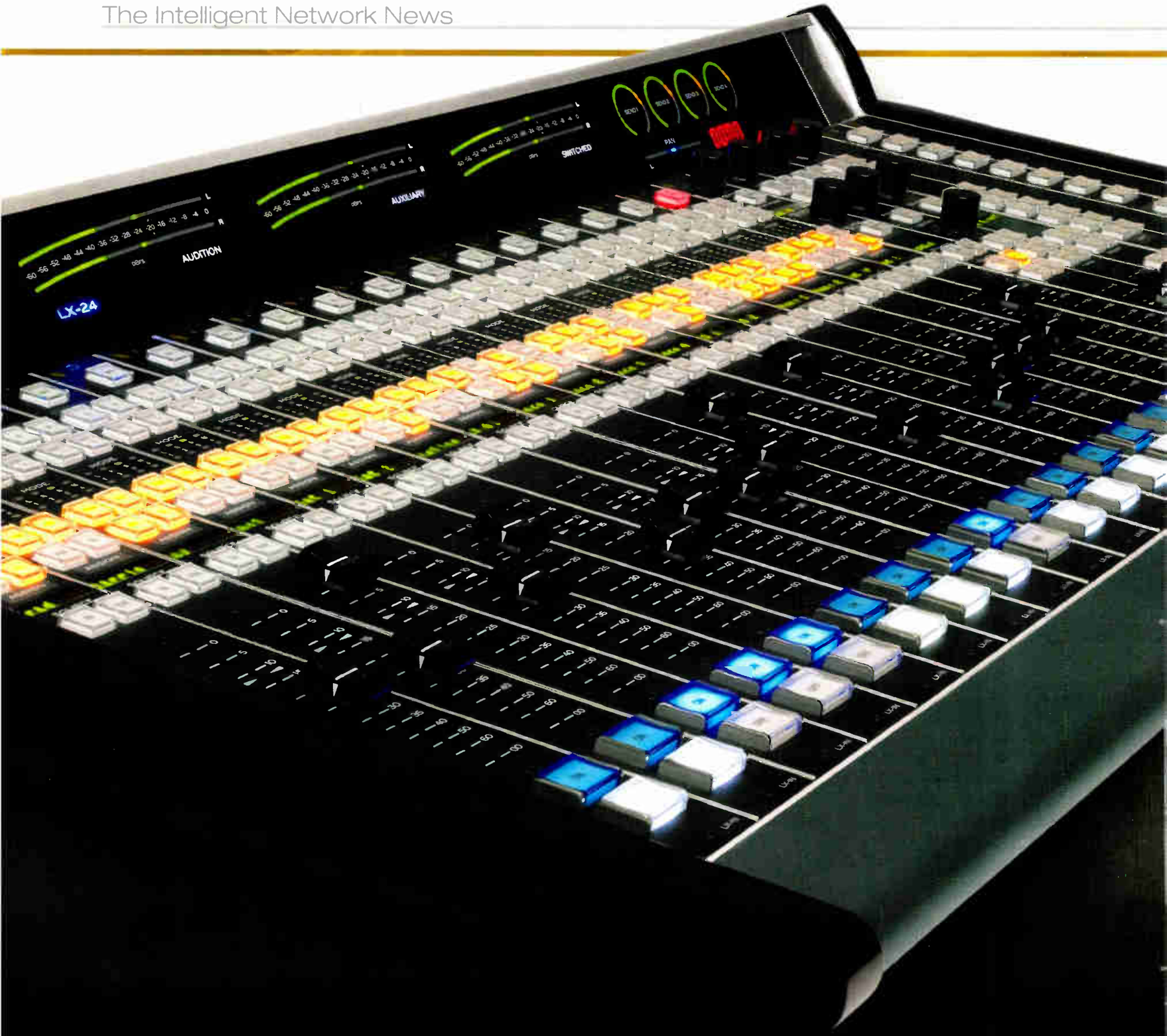

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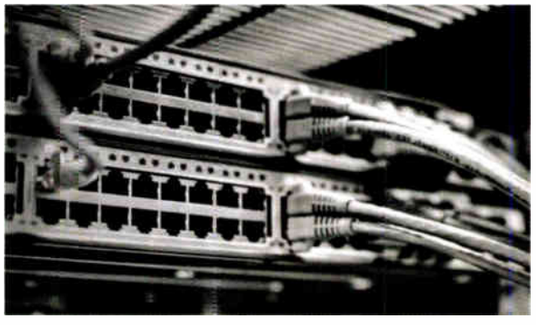
Which Switch for AoIP?

IP audio networks are very different from standard enterprise or office networks in almost every way, but none more spectacular than the nature and volume of traffic.



For this reason, the Ethernet switches used in an IP audio network like WheatNet-IP need to have a high-capacity fabric, which is the actual mechanism that allows the switch to pass data among its ports. There are different ways that switches handle traffic – store and forward, cut-through, fragment-free, adaptive switching – but regardless of fabric used, it needs to be of sufficient capacity to handle full bandwidth traffic without blocking. Also imperative: the switch needs to be a managed switch and it has to be able to snoop IGMP packets and switch them appropriately. Otherwise, multicast traffic is going to flood everywhere. For other tips and an in-depth look at switches for IP audio networking, go to:

For the entire story... INN23.wheatstone.com

IP Consoles 101

Sometimes, even we forget that our IP networked consoles don't actually have live audio in the board itself. (That's why we call them control surfaces – so we'll remember that they control the audio, not store it!)

Shown is web radio OWWR's number-one studio with IP-12 control surface, M-2 dual mic processor and just the right amount of WheatNet-IP audio networking. Check out those baby-proof covers on the Tripp-Lite power module!

We don't envy guys like Joseph Manfredi, who has to explain IP control surfaces to a group of new students every year as a faculty member in the American Studies/Media & Communications department and station manager for OWWR web radio at SUNY College at Old Westbury, New York. "I'll never convince them that there's nothing under that fader," says Joe, referring to the station's new IP-12 control surface

Joe has four studios that he teaches out of and streams 25 live shows from weekly, the most up-to-date one being his 'Studio A," with the IP-12, M-2 dual-channel mic processor and WheatNet-IP audio network that he and his chief engineer installed last year. The IP-12 is an ideal entry into AoIP for small studios, providing a self-contained digital audio board with WheatNet-IP audio network BLADE engine for flexible access to sources and destinations. "My 'yesterday' studios look and function okay, but this is the one that gets it done," says Joe.

For the entire story... INN23.wheatstone.com

Analog, Yet Digital In All The Right Places

Audioarts AIR-5 gives you smart bells and intelligent whistles.

This past NAB, Wheatstone and Audioarts introduced a number of new mixing consoles, processors, network devices and more. The brand new Audioarts AIR-5 brings together USB and optional Bluetooth, along with a built-in dedicated phone channel, to make a powerful compact board. Check it out - and ALL the new gear introduced at NAB...

Just click here! INN23.wheatstone.com

OK, this spread is an advertising space paid for by Wheatstone. But hopefully you'll find it informative, entertaining and compelling.

World Radio History

2015 BEST SHOW RADIOWORLD

Photos by Jim Peck

WorldCast Systems

APT SureStreamer

The company's SureStream technology had been available only on its own IP audio codecs; this release makes SureStream available to those operating IP audio codecs from other manufacturers. I'm with Kevin Campbell, Bruno Rost (front), Nicolas Boulay, Tony Peterle and Christophe Poulain.

BW Broadcast Ltd.

Plan B Encore

Ssssh! Can you hear the silence? Plan B can. It's a feature-rich silence monitor and audio backup player. Playing along are Gino Canzano, Neal Helly and Ricardo da Silva.

GatesAir

Flexiva FLX Liquid-Cooled Transmitter Series

This high-efficiency series promises to deliver a greener plant and quick ROI for FM/digital radio broadcasters. I'm with Tim Anderson, center, and Rich Redmond.

Klotz Communications

TouchStone Controller

A fully configurable tactile touchscreen controller for flexible control and feedback. In the booth are Andre Sauer and Robert Trebus.

Orban

Optimod-PCN 1600 Audio Processing Software

Advanced Optimod audio processing that runs natively on Intel x86/Windows platforms. Bob Orban sits with me.

ESE

ES-71 Time Code to USB Converter

The ES-71 offers a simple solution for synchronizing a computer to your existing time code equipment. Shown with me are Samantha Way, Jerry Becerra and Corey Campbell.

Inovonics

JUSTIN 808 FM/HD1 Time Alignment Processor

The box synchronizes HD1 and analog FM using a powerful correlation algorithm and a program buffer to maintain sync within one 44.1 kHz sampling period or 22.6 microseconds. From left: Gary Luhrman, Ben Barber, Jim Wood, me, Zach Calden and Josh McAtee.

World Radio History

NEW TO THE SHOW

The VMXpress IP

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World Radio History

Telos Alliance

Voltair PPM Watermark Monitoring and Enhancement

This offering from the 25-Seven Systems arm of Telos is intended to help stations make sure their listenership is measured correctly; it has drawn much attention from engineers and PDs. Derek Pilkington, Geoff Steadman and Barry Blesser, from left, accept.

GatesAir

VM1Xpress IP Audio Over IP Gateway

This offering extends GatesAir networking architectures into interoperable audio over IP environments. Paul Barzizza, left, and Rich Redmond take the honors.

DEVA Broadcast Ltd.

FM/HD Radio & IP Audio Confidence Monitoring Receiver

Full-fidelity FM/HD Radio and IP audio monitoring with lots of cool features. Todor Ivanov joined me in his booth.

Glensound

GS-HA014

Small and clever, it's an under-desk headphone amp with loop, shown here by Marc Wilson and Ian Burns. Run eight stereo headphone amps in a loop from one power supply.

Shure Inc.

MOTIV Digital Microphone Product Line

New digital mics to help you amp up the audio capabilities of your smartphones and tablets, including a condenser, stereo condenser, large-diaphragm condenser. digital audio interface and iOS mobile recording app. Making the point with me are Todd Marco, Thomas Banks, Tim Balgemann and Soren Pedersen.

DaySequerra

MAM2 Market Area Monitor

This second-generation monitor captures, logs and reports the entire HD Radio data payload for the main and multicast programs. That's Michael O'Brien of DaySequerra with me.

Jump2Go

Jumpgate 3 Modular Datacasting System

An advanced datacasting system from the always-active mind of Allen Hartle, right. Includes off-air verification

World Radio History

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World Radio History

At Home With Tieline Report-IT

Long-distance phone concerns get solved with smartphone app

USERREPORT

BY DENNIS GOULD
Engineer/Producer
"Today's Homeowner" Radio Show

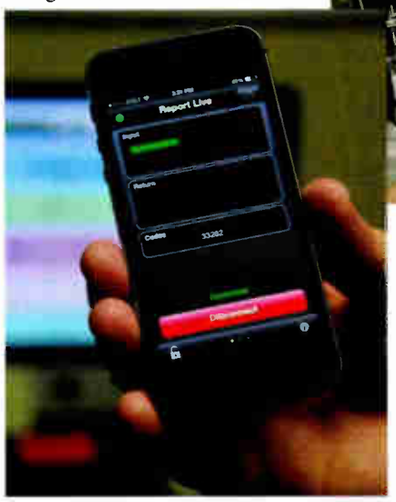
MOBILE, ALA. — As a music and radio producer for over 20 years, I'm always on the lookout for new technology and tools to improve my work. I own Soundworks Inc. in Mobile, Ala., a full-service studio producing audio for films, television, radio and more from the local to national scale. I also serve as engineer and producer for "Today's Homeowner With Danny Lipford," a nationally syndicated home improvement radio program.

When I began engineering and producing "Today's Homeowner With Danny Lipford," I was already a friend of the hosts *and* a fan of the show. I've known Danny and his co-host Allen Lyle for a long time. The show airs on 120 stations nationwide, and provides a fun and interesting format for callers to get great expert advice for their home projects.

Home improvement has never been this much fun. But sometimes producing it can also be work.

With Danny and Allen always on the go, I needed a better solution for providing quality long-distance production from the road. In the past, we would use POTS or cellphones and ... you know how that sounds.

Luckily, a colleague suggested getting in touch with John Lackness at Tieline to see what he could offer. John sent us a Bridge-IT, and we downloaded



Top: Dennis Gould; left: Report-IT App

the Tieline Report-IT and TieServer apps on our phones. With a little assistance from our IT department, I was able to set up the recommended static IP address, register the unit and literally get on with the show.

Using Danny's iPhone, the Tieline Mic Adapter (with a 30-pin to Thunderbolt adapter cable), a Mackie 402VLZ4 mixer and two Shure KSM32 mics, we fired up the rig. We were in business.

A few weeks and a couple of tests later and it was show day. I was pretty anxious.

Music ... Announcer ... Cue Danny ... "Hello, and welcome to 'Today's Homeowner.' I'm Danny Lipford along with my co-host Allen Lyle ..." came through the control room speakers.

"Yes!" I screamed, then looked at the board. My mic *was* potted down. I laughed at myself and set up our first caller. I knew it was going to be a good day. And it was a great show!

The quality was as good or better than ISDN. The Internet connection was stable. Our callers and hosts could hear each other well with minimal delay, and our road warrior hosts Danny and Allen received clear cues from me back in the home studio.

Two hours later — bring up show-close music ... Danny: "I don't believe the show is over ..."

I screamed, "Yes!" again. My mic was potted down. I'm cool.

The Bridge-IT and Report-IT app were cost-effective and produced a quality broadcast for our audience and fans. We definitely made the right choice for our show and appreciate all of the help from the team at Tieline.

For information, contact Tieline USA in Indiana at (317) 845-8000 or visit www.tieline.com.

TECHUPDATES

RCS IS MOBILE

Broadcast software developer RCS offers apps to take all of its main software platforms on the road.

Its flagship GSelector music scheduling software has Selector2Go. The data flow is kept small to enable fast performance, even on mobile networks like 3G. Selector2Go gives users core scheduling, schedule editing functionality and essential analysis details of rotations in your palm.

The automation platform Zetta has a mobile sidekick, Zetta2Go. Using a tablet or smartphone a user can view and fire off hot keys for a station; from a laptop or remote desktop a user can control much more. A desktop Internet browser can display logs, hot keys and the segue/voice track editor, allowing the user to voice-track empty voice slots in the log, edit the segue of the voice tracks and fire hot keys from a hot keys bank.

The company's Aquira traffic software is the latest to go mobile, with Aquira2Go. Harnessing touch screen technology, RCS says, Aquira2Go's interface simplifies tasks, improves accuracy and productivity, allowing the account executive to deliver professional service to the client.

RCS' mobile apps operate on most PC and Mac computers as well as most smartphones, tablets and e-readers, including the iPad and iPhone.

For information contact RCS in New York at (914) 428-4600 or visit www.rcsworks.com.

AXIA SOFTSURFACE WORKS WITH FUSION CONSOLES

Axia SoftSurface virtual console software for Windows now works with new Axia Fusion AoIP mixing consoles, as well as the company's Element consoles.

Axia says SoftSurface allows remote operation from home, office, remote broadcast locations or other locations where an Internet connection is available. SoftSurface gives users access to console controls such as setting fader levels, choosing sources and making bus assignments and monitor source selections, as well as adjusting individual EQ curves, mic compression, de-essing and expansion capabilities, and mix-minus settings.

Console controls mirror changes made by the SoftSurface operator, including fader positions when consoles are equipped with motorized faders.

In addition to assuming control of physical mixing surfaces, SoftSurface can be paired with Axia StudioEngine or PowerStation mixing engines to create a "virtual console" of up to 40 faders, allowing big-studio mixing capabilities to be placed in space-limited areas.

Remote broadcasts are easier; talent can take a tablet with SoftSurface, a USB mic and a Telos Z/IP One IP codec into the field, link with the Fusion or Element console at the studio via WAN and assist in production or control the broadcast from the field.

SoftSurface works on PCs with Microsoft Windows 7 operating system or better installed; the company says it is especially suited for use with touchscreen tablets.

For information, contact Axia Audio/Telos Alliance in Ohio at (216) 241-7225 or visit www.telosalliance.com.

World Radio History

TECHUPDATES

NAUTEL SIMPLIFIES REMOTE TRANSMITTER ACCESSIBILITY

Nautel says that usage of its Advanced User Interface has now surpassed 5,000 deployments. Many users access the AUI via smartphones and tablets. Functionality includes an onboard spectrum analyzer, an oscilloscope view which monitors audio source signals in the time domain, SNMP support, and site control functions for monitoring and control of items external to the transmitter. Users are additionally able to set up email notifications and manage enhanced support services.

This single user interface, with its site-based and remote-based access, presents an experience that allows users to manage other Nautel devices in their group. Low- and high-power FM and AM transmitters and even LPTV transmitters all utilize the AUI and may all be controlled via a smartphone or tablet. Transmitter monitoring and control is as easy as tapping buttons on a touchscreen, the company says.

For information, contact Nautel in Nova Scotia at (902) 823-5131 or visit www.nautel.com.

COMREX INTEGRATES OPUS, INCREASES SMARTPHONE APP COMPATIBILITY

Comrex Corp. has integrated the Opus audio algorithm into its Access and BRIC-Link IP codecs and its STAC VIP VoIP talk show management system.

Opus is a newer, high-quality, low-delay algorithm found in a number of free smartphone apps for iOS and Android, including WebRTC, LinPhone and Luci Live. Comrex says these free apps make wideband, high-quality connections to its equipment convenient.

Among the available options, Comrex recommends LinPhone because it doesn't require registration and can dial directly to the IP address of any Comrex codec running v3.0 firmware or higher. LinPhone is also easy to set up and use.

While Comrex previously has provided compatibility with smartphone apps such as Luci Live as well as its own mobile broadcast apps ARC and VIP QC, the Opus integration is part of the manufacturer's commitment to providing the widest possible connectivity for its user base, it says.

Technical Director Tom Hartnett stated, "We tend to embrace open source technologies where we can. Instead of constantly creating new proprietary apps to sell, we would prefer to connect to a rapidly growing number of freely available third-party apps. Opus is the backbone of many free iOS and Android apps, and so Opus compatibility."

Using free smartphone apps for remote broadcasts is a practice that's on the rise, due to reduced cost and ease of use. Although it's difficult for smartphone apps to replace full-featured professional field codec hardware completely, the clear wideband connections provided by many of these apps can be a simple solution for broadcasters looking to conduct quality drop-ins.

For information, contact Comrex in Massachusetts at (978) 784-1776 or visit www.comrex.com.

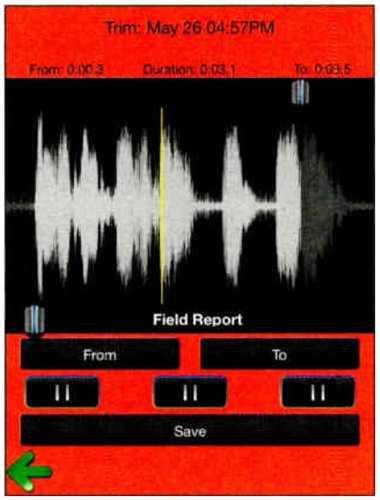
World Radio History

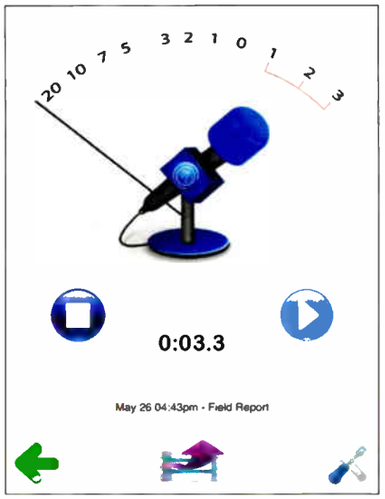
ENCO iDAD and Interchange Solve Problems

Multiple features allow for extensive remote operations for Bonneville Salt Lake City

USERREPORT

BY JOHN DEHNEL
Director of Engineering
Bonneville Radio, Salt Lake City





SALT LAKE CITY — At Bonneville Salt Lake City, we have found it a nice idea to take ENCO's automation program, DAD, along with us wherever we go. I'm really speaking, of course, about iDAD (and its Android cousin, enDroid). IDAD is ENCO's simple smartphone and tablet app for field access to the studio's ENCO playout system. A free download from the Apple App Store or Google Play, iDAD is really easy to use. Press the record button, voice your sound and prepare to send it right to the automation system.

Before iDAD we spent time manually having studio people record sound from the field. Now all the producers have to do is tell the reporter or the talent what cut number to send it to. That and a group name are easily entered or, if no cut number is specified, the system can be adjusted so it puts the cut in a group so it can be easily found.

Users can also assign and reuse the same number for a recurring event, as we have done with our consumer reporter. Before iDAD, he would call from his office on an ISDN line and someone would have to manually record him.

IDAD also has a rudimentary head/tail editor available. Sometimes we have taken advantage of that and prerecorded what would have otherwise been live hits from remote site appearances and sent them on to DAD. We have experimented using the built-in mics on the phones and also using pro mics using iRig "Pre" adapters. The built-in mic is generally OK for quick news hits. The pro mic, naturally, sounds better.

The other thing iDAD can do is control the automation module. You can send commands to play a specific predetermined cut. We can tell DAD to stop playing and turn on console audio from a codec or even start an emergency playback system. There are all kinds of things the command language can do we have not imagined yet.

As in all good things there is a gotcha. IDAD only works if you have ENCO's PC interface device "Interchange." While the iDAD app is free, Interchange is not. Interchange is a good idea though, as most audio networks are best kept isolated from the facility's or network's other computer networks. That's what the Interchange box does. It has two Ethernet ports, one for the DAD network and one for the rest-of-the-world Internet connection. ENCO says it will support any number of iDAD or enDroid instances. We have about 20 instances of it installed.

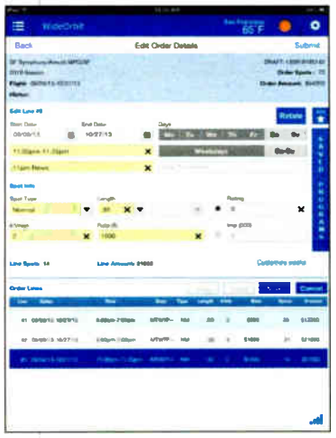
Besides running Interchange itself, we have found having this device in the system useful for running other things. It interfaces an app we have that let's our reporters send video from their iPhones. We strip the video for the Internet dudes and send the audio to DAD via the Interchange box. We also have modified the process a little and have a scheme set up that scrapes a phone-mail box and uses the Interchange machine to post reports from traffic tipsters right to specific DAD cut numbers. What I'm saying is Interchange is an OK investment, not only to run Interchange and iDAD, but also as a place to do unusual stuff that you probably would not want to run on the main audio server.

We still are dreaming up things to do with iDAD and Interchange. But dreaming is fun!

For information, contact Ken Frommert at ENCO Systems in Michigan at (248) 827-4440 or visit www.enco.com.

TECHUPDATES

WIDEORBIT WO VIEW BRINGS TRAFFIC SYSTEMS TO TABLETS



WideOrbit says that its WO View frees users of the company's WO Traffic to get out of the office and go mobile. Salespeople can enter an order on their mobile tablet with a simplified process that ingests the order directly into their traffic system. Orders can be created anytime from anywhere, such as a client lunch, resulting in newfound efficiency and flexibility for broadcast sales teams, the company says.

WO View's process allows salespeople to book new orders quickly and easily, then submit them securely to the WO Traffic Electronic Orders module. Drafts and changes can be made offline any time, then submitted whenever the tablet is Wi-Fi-connected.

At the 2015 NAB Show, WO View previewed its upcoming Order Approval functionality, which enables sales managers to approve orders from their tablet, view a summary of changed dollars and spots for orders, and drill down to view changes by line or week. WideOrbit also previewed a Log View module that will deliver access to logs, program and spot information with drill-down detail.

WO View is available now for iPad and coming soon for Android tablet devices.

For information, contact WideOrbit at (828) 252-8891 or visit www.wideorbit.com.

DAVICOM DAV2YOU PROVIDES INFORMATION

Davicom says its Dav2You smartphone app provides much more than a simple link to control a Davicom unit at a site. That can be done through simple Web browsing. Dav2You brings the status of all of a facility or network's sites automatically into your pocket.

Dav2You can provide an immediate overview of all sites at a glance with the interactive map. The site's icon color gives an indication of any problem. Touch the icon on the map and access the site's parameters.

Dav2You's custom view screen displays the information needed for each configured site. Relevant parameters such as power to the antenna, room temperature or other useful or needed info can be added to the custom view for any site.

Alarm acknowledgement is easy. When a Davicom unit senses a problem at the site, it sends a notification. Touching the received notification on the touchscreen accesses the alarm acknowledgement dialog box.

Dav2You can generate reports of the events received, filter the events by date, name or description and in iOS print them out or forward them by email.

The latest versions of Dav2You and the DV Firmware offer the option to automatically update the Apple Push Notification Service Security Certificate directly from Apple's servers.

Dav2You is available for iOS and Android devices; it is free for one site to allow potential users to take it out for a test drive.

For information, contact Davicom in Quebec at (418) 682-3380 or visit www.davicom.com.

World Radio History

TECHUPDATES

DAYSEQUERRA INTRODUCES REMOTE DASHBOARD WEB SERVER

DaySequerra has released the password-protected Remote Dashboard, a Web server that is compatible with popular browsers and smartphones as well as iPad and Android tablets.

The Remote Dashboard provides remote configuration, remote control

and remote flash-updates over a LAN or WAN. The Web server is featured on DaySequerra's M4 product line of modulation monitors and off-air broadcast receivers including the latest M4DDC TimeLock. DaySequerra's proprietary TimeLock algorithm maintains perfect time and audio level alignment of the HD Radio MPS and HD1 audio streams.

The company says navigation of the dashboard is optimized for the standard 4:3 aspect ratio of an iPad or Android and is intuitive. Users can advance though the interface by selecting tabs at the top of the browser window for control of the tuner. Configuring alarms such as RF carrier, HD lock and audio loss or setting email notifications for multiple recipients is done via pull-down menus. Changes are saved to the tuner in real time so in the event of a power interruption the last state of the machine is returned with all user settings.

Tuning buttons remain static each tab for access along with read-only data such as frequency, station call letters, SNR and active alarms.

For information, contact DaySequerra in New Jersey at (856) 719-9900 or www.daysequerra.com.

BIRD LAUNCHES APP FOR RF METER

Bird Technologies has launched its first Google Play App for Android, the Bird RF Meter.

The Bird RF Meter app enables an Android phone to become a power meter capable of connecting with the Bird USB Field Sensors.

The company says it is suitable for field techs and engineers who need to make power measurements anywhere they go. The Bird RF Meter's user interface has a menu-driven design, helpful for using on the phone. The application enables a user to set up the sensors with the appropriate configurations, correction factors, offsets, zeroing calibration and selection of element types.

It includes the ability to enable smoothing level for more stable readings or max hold to detect the maximum measured power.

System requirements are Android version 4.0.3 or later and the hardware must support On-The-Go/OTG host functionality.

The Bird RF Mater app is available as a free download at the Google Play store and search Bird RF Meter.

For information, contact Bird Technologies in Ohio at (440) 248-1200 or visit www.birdrf.com.

NEXTRADIO LEVERAGES RADIO

According to NextRadio, the NextRadio app enables radio stations to leverage the resources that make them unique (e.g. their towers, studios, broadcast licenses, local appeal) and combine them with the company's TagStation technology to deliver an FM experience that puts radio on par with other entertainment options available to listeners.

NextRadio says that technical implementation is simple because the proprietary software supports connections to the major automation systems: AudioVault, NexGen, Zetta, WideOrbit AFR and many more.

In addition, according to the company, TagStation removes the engineer from the daily management of enhancing programming content, and enables others at the station to take on these tasks and freeing the engineer up for more critical, technically challenging tasks.

For information, contact NextRadio in Indiana at (317) 684-2952 or visit www.nextradioapp.com.

BURK ARC SOLO HAS APP CONTROL

Burk says its ARC Solo offers all-in-one facility management with flexible user access.

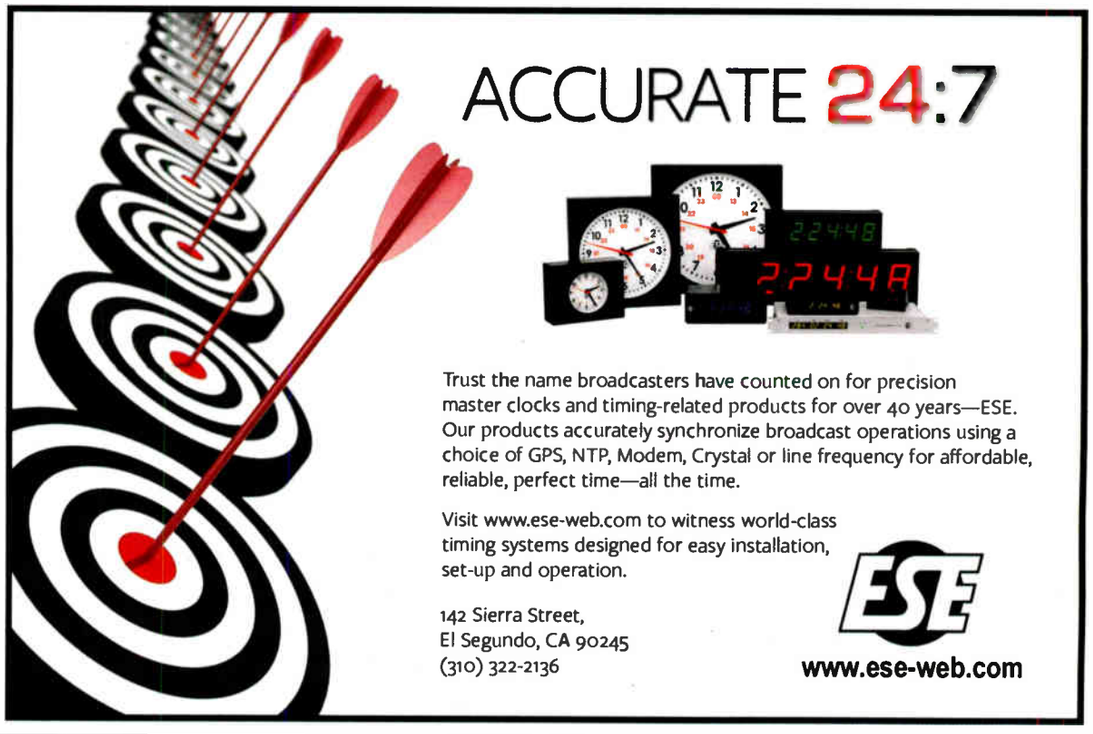
The ARC Solo provides control features like those found in Burk's flagship ARC Plus family, though with the simplicity of a self-contained remote control unit. Connections to 16 meters, 16 status and 16 relays are available on the rear panel of the ARC Solo.

The IP-based ARC Solo provides operator access via smartphone, tablet or PC. Email alerts and selective alarm reporting enable efficient fault resolution. User-configured email and SMS templates direct selected alarms to key technical personnel. Ten email lists can be created, with up to 20 email addresses in each. Email alerts can include embedded hyperlinks for one-click smartphone access to the ARC Solo user interface at the alarmed site. Like the ARC Plus, the ARC Solo is bandwidth-friendly and optimized for real-world broadcast links.

For control via telephone, the Burk Recordable Speech Interface is built in, including standard broadcast vocabulary plus the ability to record custom phrases.

PC-based management is available using optional AutoPilot software. This allows operators to monitor and control remote equipment at multiple sites, manage alarms and organize data into custom reports.

For information, contact Burk Technology in Massachusetts at (978) 486-0086 or visit www.burk.com.



World Radio History

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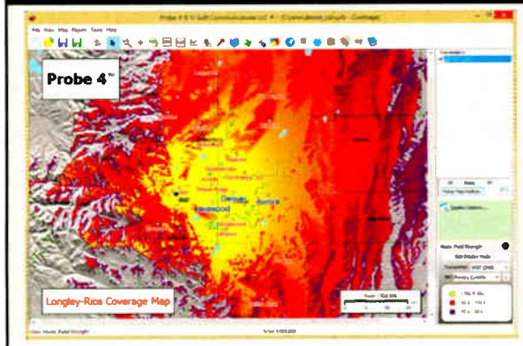

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WANT TO BUY

Collector wants to buy: old vintage pro gears, compressor/limiter, microphone, mixing consoles, amplifiers, mic preamps, speakers, turntables, EQ working or not, working transformers (UTC Western Electric), Fairchild, Western Electric, Langevin, RCA, Gates, Urei, Altec, Pultec, Collins. Cash - pick up 773-339-9035 **or ilg821@aol.com.**

2" plastic "spot" reels 6.5 or 8" diameter, as used for quad video. Wayne, Audio Village, 760-320-0728 or audiovlg@gte.net.

Equipment Wanted: obsolete, or out of service broadcast and recording gear, amplifiers, processing, radio or mixing consoles, microphones, etc. Large lots preferred. Pickup or shipping can be discussed. 443-854-0725 or ajkivi@gmail.com.

I'm looking for San Francisco radio recordings from the 1920's through the 1980's. For example newscast, talk shows, music shows, live band remotes, etc. Stations like KGO, KFRC, KSFO, KTAB, KDIA, KWBR, KSFX, KOBY, KCBS, KQW, KRE, KTIM, KYA, etc, I will pay for copies... Feel free to call me at 925-284-5428 or you can email me at ronwtamm@yahoo.com.

Looking for a broadcast excerpt of a SanFrancisco Giant's taped off of KSFO radio from 1959, interviews with Willie Mays, Dusty Rhodes & some play by play excerpts, also features a homerun by Willie Mays and Felipe Alou stealing second base, running time is 18:02, also looking for SF Giants games and/or highlights from 1958-1978 also taped off KSFO Radio. Ron, 925-284-5428 or ronwtamm@yahoo.com.

Looking for KFRC signoff radio broadcast from 1930 Andy Potter, running time is 0:22 & also the KLX kitchen the program guest is Susanne Caygill, a discussion of women's affairs with a long promotion for Caygill's appearance at a local store. Anne Truax, Susanne Caygill, running time is 13:44. Ron, 925-284-5428 or email ronwtamm@yahoo.com.

Looking for KTIM FM radio shows from 1981-1984 if possible unscoped. R Tamm, 925-284-5428 or ronwtamm@yahoo.com.

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World Radio History

Programmatic Is Coming ...

But it's probably not what you think

COMMENTARY

BY ROB GREEN

The author is vice president, streaming, for WideOrbit.

Programmatic's public profile is growing fast, and the industry is abuzz with hopes, dreams and fears about what it means for radio.

While many see programmatic as an opportunity for their business to mine a new sales channel, the sheer number of vendors, solutions and articles flinging the word around has also created a lot of confusion. At the NAB Show and in daily conversations, many of our radio customers have asked, "What the heck is programmatic and what does it mean to me?"

DEFINE PROGRAMMATIC

Sensing a gold rush, every vendor seems to have rolled their own definition of a programmatic solution, which has confused many in the industry about what programmatic is and the problem it addresses.

Let's get on the same page with a common definition.

When we discuss it, programmatic has three major elements. It's a media platform for transactions that:

- are fully automated by software connecting buyers and sellers;
- use data to provide advertisers and agencies with targeted audience buying and consumer-led analytics;
- price ad units based on market supply and demand.

WHAT PROBLEM DOES IT SOLVE?

First and foremost, programmatic opens the door to a new set of advertisers to assess and potentially purchase your inventory.

Rob Green

From a buyer's view, the radio landscape is incredibly fragmented and thus difficult to buy at scale; it costs them the same in productivity to buy a spot from one station as it does to go to a group of 200 outlets. Since performing many small buys is expensive for both buyer and sellers, most small media outlets are bypassed by buyers in charge of placing national advertising campaigns. In fact, the demand side may never even learn that your valuable, highly targeted inventory exists. They simply can't see it or find it.

Dollars arriving through programmatic should be thought of as incremental to existing channels, rather than as a replacement. Radio businesses can maximize profit from finite resources when demand increases and they have tools at their disposal for managing the revenue mix. Increasing demand from programmatic sales will allow station managers to form their own unique combination of revenue opportunities that maximize the total revenue from their direct sales forces, ad networks and programmatic demand.

Dollars arriving through programmatic should be thought of as incremental to existing channels, rather than as a replacement.

NOT A RACE TO THE BOTTOM

Careful readers will notice "Real-Time Buying" is not part of our definition of "programmatic." The great unstated fear when media owners ask about programmatic is that RTB will generate a "bidding to the bottom" scenario for radio advertising, as it did for publishing.

In the digital space, the term RTB is used interchangeably with programmatic, but this is not true across all media forms. RTB transactions are actually a subset of programmatic advertising. In radio, RTB may not even be feasible; we expect that, for the foreseeable future, a human will still be involved in transactions for creative approvals, at minimum.

Sellers should also bear in mind that new programmatic platforms are not designed around eBay-style auction rules. Rather, they let sellers establish their own rules of sale. The best programmatic platforms let sellers establish pricing floors, increase per impression revenue and control the right to accept, reject or ignore any offer.

Responsible vendors know that media owners have spent years, even decades, building their brand and identity. Make sure that your programmatic vendor's incentives are aligned with yours. They should bring an attitude that it's their job to help media sellers create value.

TAKE FROM THE COMPETITION

Participating in programmatic reframes the competition for ad dollars. In a world where data allows comparison of audiences and effectiveness across media formats, radio stations are no longer competing only against each other for advertising dollars. They are competing against every other media option out there: digital, TV, out-of-home and literally hundreds of others. So long as radio only sells on the basis of blunt demographic data like age and gender, it will not be in the running for digital dollars.

Programmatic allows the introduction of buyer-side data so inventory can be evaluated on the same basis as competing media. And that will create more opportunities to sell spots with forward guarantees and with a better understanding of the perceived value to buyers.

The wider array of data will also help sellers understand whether they are offering disproportionately valuable audiences for too little; in other words, too much success might be indicative that stations are selling audiences for a bargain price. Today, they have no way of knowing.

PLAN OF ACTION

To stay ahead of the curve, we recommend that every media seller start experimenting with programmatic today. While it's unlikely in the near term to make a huge difference to the bottom line, it will pay dividends later to understand the market, the technology, the workflow and advertisers' expectations. Broadcasters and networks that embrace hybrid direct-programmatic business models will have an early mover advantage.

One other immediate step mid-size and large station groups can take is to start breaking out digital impressions from their linear inventory. This will allow them to easily market their digital audiences' value with the targeting parameters that digital buyers are accustomed to, like device type and geographic and behavioral attributes.

Here we have focused on revenue enhancements. There are many other reasons that programmatic will benefit radio stations. We expect stations and groups to enjoy greater control over yields; reduced labor costs; and simplified inventory management, reporting and reconciliation.

Programmatic is an opportunity for radio to grow its overall revenue right now by availing inventory to more advertisers, removing barriers to buying, and allowing station groups to compete on an equal footing with competing media. Early movers have a chance to learn about managing their revenue mix and integrating new workflows, and will have competitive advantage over their fellow stations. Look for programmatic solutions that enhance the value your inventory and make it accessible to the greatest number of interested buyers.

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

Rob Green is VP Streaming at WideOrbit and leads the development of the company's digital streaming audio products. He was CEO of Abacast before its acquisition by WideOrbit in 2010. He has also held positions at Microsoft, Nine Systems, Buy DRM, Imagine Communications and Sterling Commerce (IBM).

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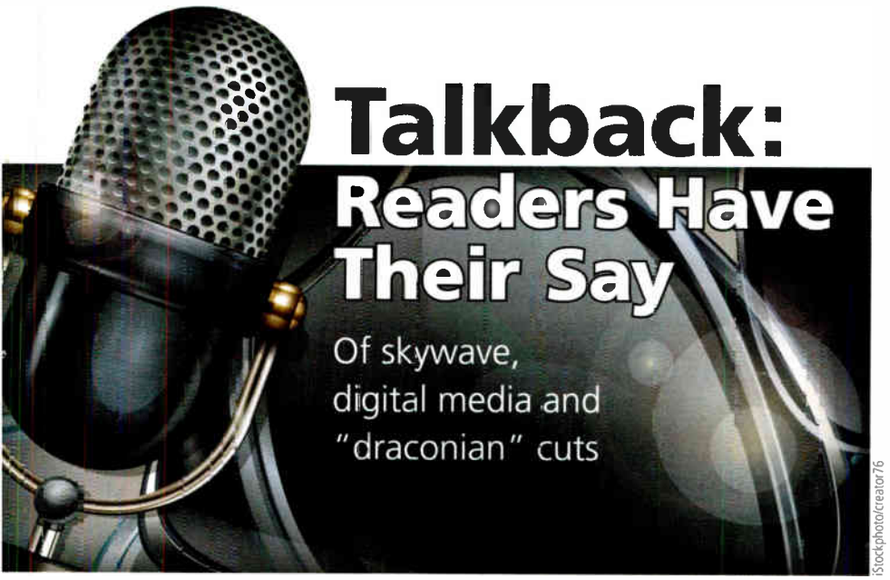

Talkback: Readers Have Their Say

Of skywave, digital media and "draconian" cuts

iStockphoto/creator76

The following comments were posted to radioworld.com *in response to stories that appeared on the website or in print.*

About "Are You Bullish on Podcasts?":

Podcasting, where one can download and store the entire podcast over Wi-Fi at home and listen to it later, for example even while on a flight, is vastly more convenient to the listener than the alternate of on-demand streaming of "podcasts" (sic) that only work while connected. I understand that there might be some music licensing differences between the two.

About "LP-250 Proposal Open for Comments":

We have a 250-watt repeater in our community, owned by a conglomerate, which now repeats the main station's HD secondary channel, which then gives us a total of *three* FM channels that basically play the same '70s oldies over and over again, 24 hours a day, via computer, with no local content whatsoever. Yeah, the corporation may be paying FCC fees, but what is it doing for the community? On the other hand, more proliferation of LPFMs means more chances of a "pirate" actually going legit when he sees the open doors at his community radio station. We have two LPFMs that I can't hear. A power increase would be helpful. But I would like to see rules enforced as to local programming, before any power increase.

~ ~ ~

All licensees need to pay to support the commission. There should be no "free ride" for those who want to be broadcasters.

About "IHeart Study Shows Potential Lost Listeners if Skywave Protections Relaxed":

The only thing relaxing skywave protection is going to affect are listeners outside a station's contour. These are "extra" listeners that an AM station gets but have little to do with the community the station is licensed to serve. As such, there's no reason why these additional listeners should be protected. Again a reminder: the FCC has already stated its intent to keep Channels 5 & 6 as part of the TV band. Forget this fantasy and focus on the real future for AM, all digital. It's been proven to work and work well.

~ ~ ~

Consider the migration to 76 to 88 MHz ... 120 channels that are 100 kHz wide with five 72 kbps sub-channels each should be a powerful draw. The audio would sound very good compared to an FM station if the five sub-channels are programed independently and far better than FM if combined. The medium-wave band would sound much better after all the little (less than 5 kW) stations are gone. Regional stations could be given protection to 750 miles and 50 kW stations could have 1,500-mile radius protection. I would love to own a remaining MW station or a VHF digital (DRMx5) station after the transition.

~ ~ ~

Relaxing interference standards may be something that will just happen. To mitigate, make relaxed protections conditional on GPS-synchronized carriers.

~ ~ ~

A little history: The very existence of many of these smaller stations was conditional from the start on protecting stations that existed before them. For a long time, that meant daytime operation only. The Daytime Broadcasters Association then pleaded with the commission for some amount of night power.... Fast forward from the '70s about three decades. Today's owners are of a different generation and know nothing of the precedents that set up the current scheme, but physics doesn't change with the political wind. With foot in the door from the few watts obtained back then, it's now "let's get more." Don't relax protection. It's still needed, and not just for Class A.

~ ~ ~

Just migrate the Class D stations to 76–88 MHz and restore the sanctity of the clear channel. Class C stations should be permitted to migrate to X-band on an auction basis to get 10/1-NDI and then for any local channels (1230, 1240, etc.) freed up by the migration of the C's, open those allotments up for auction. AM still has a future as a nighttime regional broadcasting service and we need to assure that the clear channels remain clear in as many places as possible and radio needs to market itself again to the nighttime.

~ ~ ~

Jeff Littlejohn used "potential listeners" figures to show the impact of a reduced skywave protection. I venture a guess that the Nielsen figures used were those of total listeners within an area, as opposed to those who actually listen to his station. While his station may lose a few listeners if the skywave protection was relaxed, many local stations would have the potential to attract new listeners and stay financially viable. One station's loss would provide several other stations a benefit. In current times, Class A stations sell minimal commercial time beyond their main coverage area. All the skywave coverage they have is just "gravy." It's time to think of the little Mom and Pop stations, large corporate stations have made their share of money already.

About "Audi Drives Infotainment Upgrade":

This news about CarPlay, if true, is *very* disappointing ... They've been promising CarPlay for 2016 models, and I was about to place an order for an 2016 A3, but now I will not.

About "Stock a Better Station Toolbox":

I've learned to leave at least a screwdriver at a transmitter site, generally the Harbor Freight 4-in-1. That can save a trip back to the car. But if you're looking for a really good single screwdriver try the Klein 32505 11-in-1 screwdriver.

Klein quality and it does about everything you'll need. I keep one in the car next to the seat. I've got a few more comments but ran out of space.

About "Five Questions: Geoff Steadman" and PPM watermark monitoring/enhancing:

Waiting is always an option. However, it does give those who tend to be on the leading edge an advantage. When we're talking dollars and cents, it doesn't hurt to consider what any improvement in reporting of listening can do for a station's advertising revenue. And since we're talking largest markets, we're talking bigger bux.

About "Attendance Cap for Next CES":

I call "BS" on this. The vendors are already paying big money for their displays at the CES, and even at the lowest $100 rate fee, CEA will rake in a cool $1.7 million for the honor of our attendance. Yep, it certainly will help cap attendance. I will not be going to CES in 2016 for the first time in 20 years as I already pay too much for the hotel room and airline tickets, even when purchased five months in advance. Good job guys, you will reduce the attendance at CES. I didn't see anything Earth-shattering this past year anyhow, and the vendors' reps were pretty faces that were clueless about my technical questions. Last interesting items I saw were Sony's original release of OLE technology years ago and back in the '90s when they released their MiniDisc technology.

(continued on page 30)

World Radio History

TALKBACK

(continued from page 29)

Photo by Bob Kovacs

About "Get Comfortable With Disruptive Ideas," specifically FCC comments about pirate enforcement:

Still coming down on the pirates? Great. But what about the legally licensed stations that ignore the rules? I'm already hearing a lot of AM Class A stations getting screwed up at night by supposed daytimers operating 24/7 (or Class Ds operating at full daytime power at night) and the FCC is already basically not enforcing the rules on the clear channels. This can only get worse.

About "SBE Calls Proposed FCC Field Cuts 'Draconian'":

The FCC should drop all fees for broadcasters with 25 or fewer stations. Actually *all* FCC offices should be closed and Congress start all over with a kinder agency and reinstate ownership limits now (with one year allowed to comply) to the old 7/7/7 rule. Stop the meaningless paperwork *now*.

~ ~ ~

The problem I see with the consultant's view recommending the field office closures has not taken into the relationship between the broadcasters and the local FCC offices. This relationship has grown over the decades into a level of cooperation and assistance that has created an immense level of compliance. Working in concert, we have been able to more accurately interpret the rules work out interference problems, improve EAS activities and create alternative inspection programs to name a few.

~ ~ ~

If the commission is going to dramatically reduce its field offices and enforcement, maybe it can also dramatically reduce the annual fees that broadcasters pay. The radio companies, especially, will need some extra cash now to take the pirates and other ne'er-do-wells to court, to get the enforcement there that the commission will seemingly be cutting back on.

About "Consultants Presented FCC With Range of Field Office Options":

How about storing that equipment at local stations, accessible to members of the Society of Broadcast Engineers and training the members to use the equipment to track down interference? I'm not talking about the occasional "pirate," but the everyday barrage of interference caused by everything from computers, to battery chargers, to big-screen TV sets, to bad power lines. Those are the things that cause people to tune away from broadcast transmissions. While you are at it, produce some PSAs that tell people how the valuable spectrum is being destroyed by RFI, and how to shop for better products that don't pollute the spectrum. The equipment is expensive. Training is also expensive, but the techniques can be passed on to others.

About "Wheeler: FCC 'Is More Efficient, More Transparent and More Engaged'":

Really? I guess that voting on "Net Neutrality" without it being available to the general public prior to the vote must be the new "transparency." "Efficiency" must be defined by decreasing services where they are needed with the proposed field office closures. I will give them the "engaged with the public" as we still can comment, for what it is worth.

About "'Franken FMs' Get Longer Life":

That the FCC is even seriously considering this idea provides yet another reason why VHF channels will never be given to broadcast radio. If anything, after the repack, we will most likely see a full repopulation of the VHF band with LPTV broadcasters — including Channels 5 & 6. Radio broadcasters whining about interference from so-called "Franken FMs" is without merit since we're only talking about broadcasting on the existing aural carrier for Channel 6 at 87.75 MHz. Radio's future for growth is digital FM and OFDM transmission.

About "Pandora May Be Closer to Station Purchase":

If no station played music then the music makers and their agents would be in bad shape. Playing music on the radio or on the Internet is a form of free advertising and the agents, such as BMI and ASCAP, should be happy to allow lower royalties.

~ ~ ~

It's about time that the audio streamers get a break from the music industry. Why should any source that pays BMI, ASCAP and the other royalty people a separate royalty for streaming? Music is music, radio, recorded or streamed. I can understand an additional payment, but the same amount? Our small station would love to stream, but we are cash poor just paying for royalties already.

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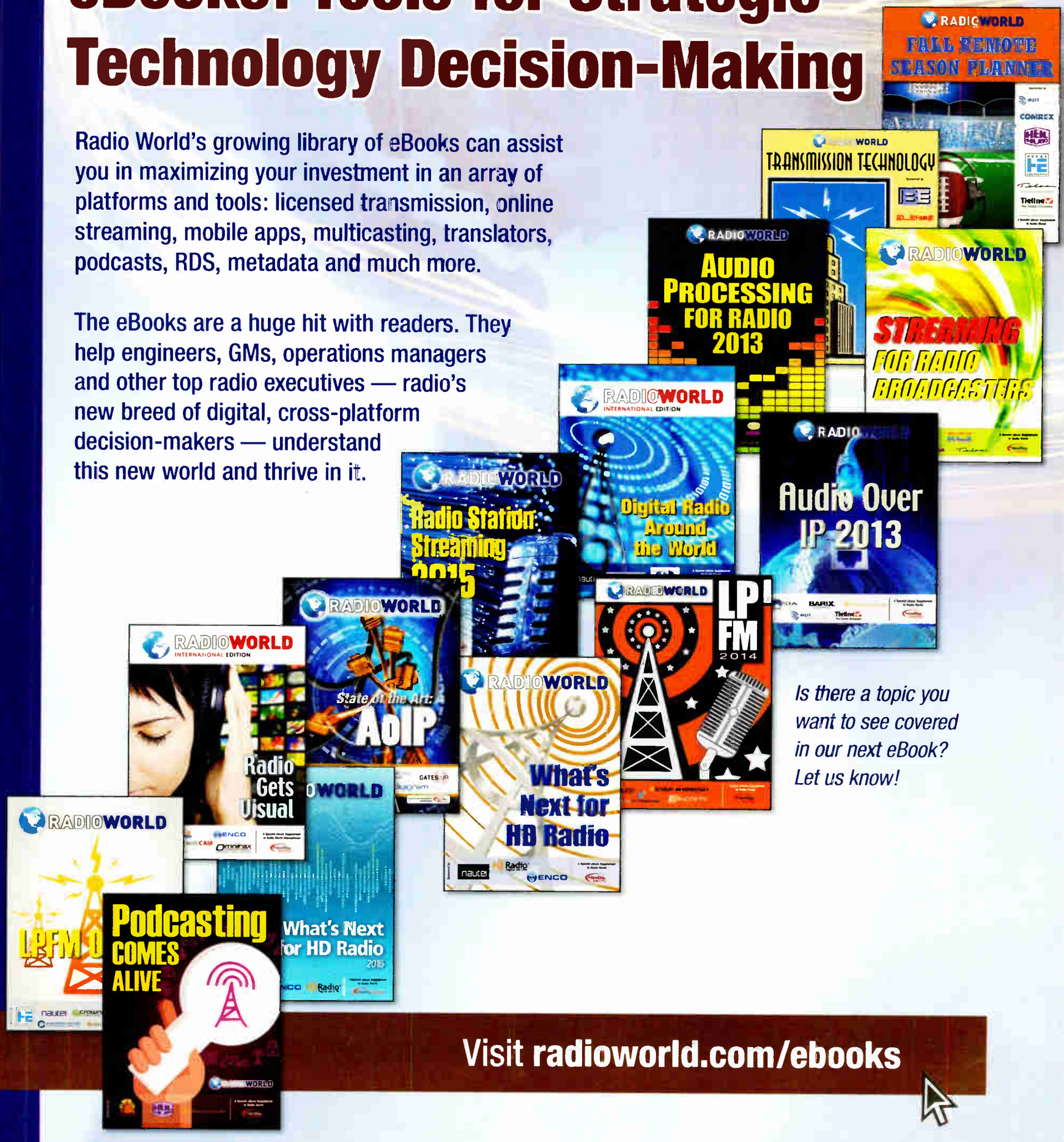

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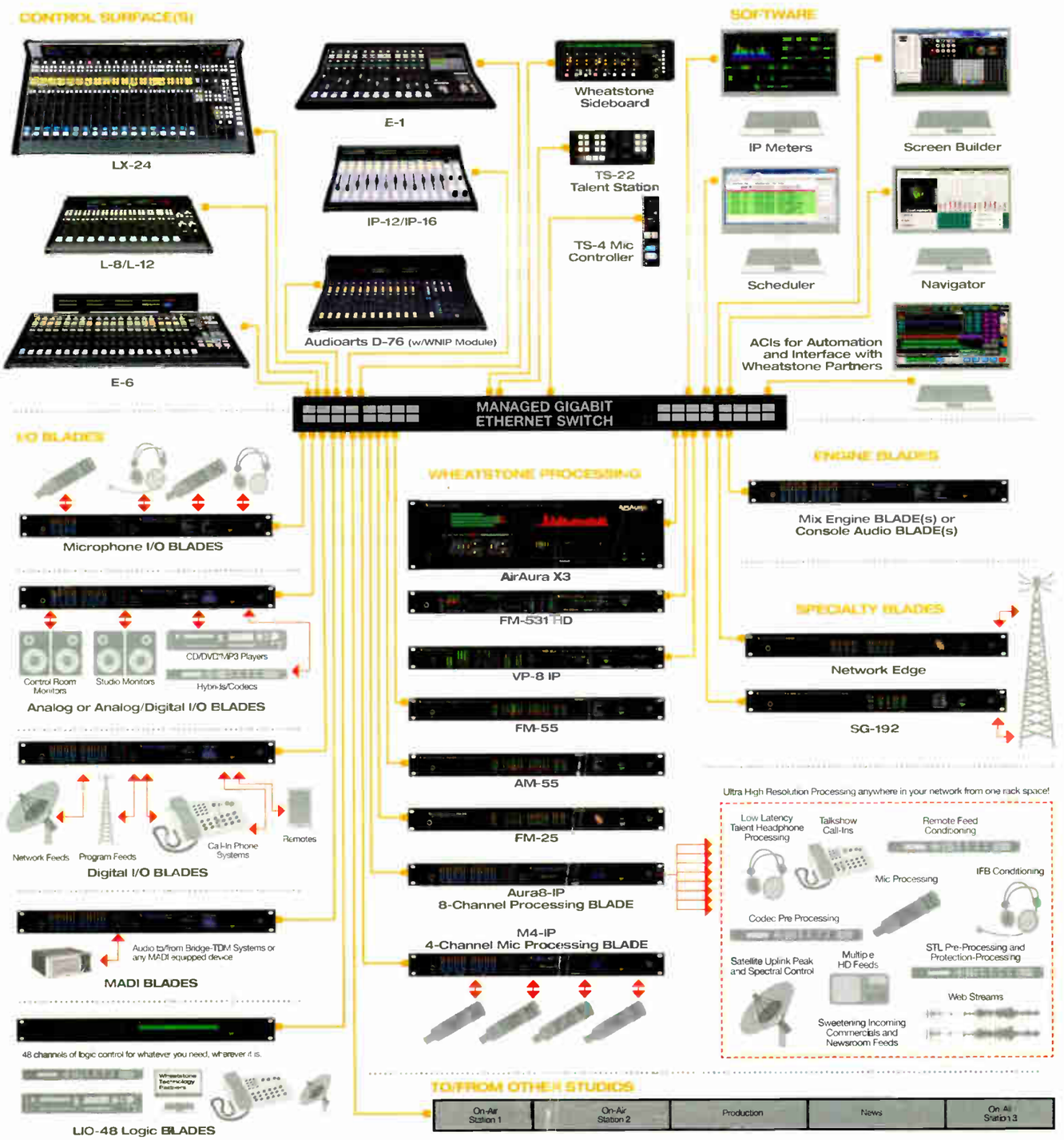

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