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LOVE THY GENERATOR

- In the wake of monster weather, Curt Yengst details how you can make sure you've done proper upkeep before storms hit. — **Page 22**

HIKING THE APPALACHIAN TRAIL

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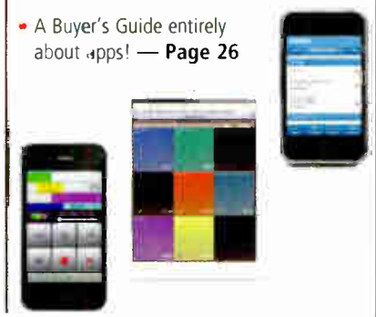

UCH ADO ABOUT ILLENNIALS

younger generation is poised to ke over radio broadcast … they can ndle it, argues WSUM(FM)'s general anager — **Page 38**

Globally, Digital Radio Progresses

Various technologies fit various needs, but digital has forward momentum

BY T. CARTER ROSS

No longer an oddity, digital radio in many corners of the world is becoming an important part of the mediascape and a next step in the evolution of content delivery.

From maturing markets in Europe to a massive developing network in India, for digital radio broadcasting the focus is moving from tests and trials to implementation, promotion and growth.

In February the European Broadcasting Union issued Recommendation R 138, laying forth the goal of moving forward with digital radio, primarily the DAB+ version of Eureka-147, across the continent. The EBU membership includes all the large, well-established public-service broadcasting companies in Europe, so while this is not a mandate, it does have institutional weight behind it. Most European public-service broadcasting companies have active DAB services or, at the least, trial services on the air.

EBU RECOMMENDATION

While recognizing that different countries are at various stages of digital deployment, EBU R 138 calls for "immediate deployment" using DAB+ in VHF band III and, in areas where DAB coverage is not practical, the DRM30 and/or DRM+ system.

Both the Eureka-147 and DRM families are open standards published by the European Telecommunications Standards Institute. The WorldDMB Forum is the main promoter of DAB/DAB+ technology, while the Digital Radio Mondiale Consortium is the primary promoter of DRM30/DRM+.

"This is a relatively new document and too early to measure the effect. We must also remember that it is a recommendation and not a directive," said WorldDMB President Jørn Jensen. "However we believe it will be useful for countries who are in doubt about the future of broadcasting in Europe."

The DRM Consortium welcomed the inclusion of a recommendation for the DRM systems.

(continued on page 10)

Courtesy DRM Consortium

At BES Expo 2013 in New Delhi, India, NXP Semiconductors demonstrated a multistandard chipset that can support DRM30, DRM+, DAB, DAB+, T-DMB and HD Radio on AM and FM. In the picture are Karthik Ramesh of NXP and DRM Marketing Director Radu Obreja (holding the chip).

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World Radio History

Harris Broadcast Shuffles, Cuts Staff

The manufacturer adapts to an increasingly IP-centric industry

BY DEBORAH D. MCADAMS

Harris Broadcast is undergoing a post-acquisition realignment that includes staff cuts and operational changes.

The company was acquired from Harris Corp. by the Gores Group private equity firm in February. There's since been a quiet shuffling on the management level and a reduction in support staff.

"Total reduction is less than 10 percent, spread over a full-year timeframe, on a global basis," said Harris Broadcast CEO Harris Morris. "What we're doing is a positive overall action, which is refocusing on the strategy and the core, and investing in core platforms and services."

Harris Broadcast employed around 1,700 people when Harris Corp. announced its intent to sell last May. Morris didn't provide specifics about the types of positions cut or the exact number of cuts.

Morris, who has been with the company since January of 2008, said back-office costs such as those associated with finance and order-entry were too high as a result of the company "under-integrating" though a series of acquisitions, including Leitch and Encoda, in the last nine years.

One broadcast network executive said that for customers, the impact of mergers, acquisitions and divestitures is now factored into the equipment-buying process. "The business cycle is as much a part of the decision as the technology itself," he said. "It's the first qualifier as we sit down and start considering a vendor. Then you get into product specifics." One of the first things he said customers look at after a divestiture is the management team.

At Harris Broadcast, Morris was bumped up from president to chief executive officer this year, after the Gores acquisition. No one held that role prior.

Harris Broadcast
Deliver the moment.

Mike Oldham, former chief executive officer of OmniBus and president of Grass Valley for the Americas, was brought on as senior vice president of global media sales in March. The rest of the executive team remains in place.

"Coming out of that bit of uncertainty," Morris said, "I think we've got a lot of energy in the team, particularly the leadership team. I have six or eight international trips planned in the next six or eight months."

Harris Broadcast, like other vendors, is having to adapt to an increasingly IP-centric industry. Customers want flexible technology, in part because they don't know what the market may demand next. Broadcast executives who spoke on background said interoperability was crucial to their purchasing decisions.

One result is that broadcast technology is rapidly morphing into code.

"Today, it's about one-third what we think of as pure software sales," Morris said. As the shift continues toward more IP-based processing and delivery, Morris anticipates growing demand for firmware and app-based platforms, given some of its recent introductions into the radio industry like Intraplex IP codecs and DAB over IP solutions.

"Some competitors are more hardware-centric, where I think there's going to be pressure," he said. "For us, if we can accelerate that shift, it allows us to take a ton of hardware cost out of the platform, and we can lower the cost per channel, stream or bit for the customer, and expand our bottom line."

NEWSROUNDUP

CLYBURN: Commissioner Mignon Clyburn is now acting chair of the agency — the first woman to hold that position. In a note to the FCC staff, Clyburn said she sees herself as a member of a relay team. "My job is to build on forward momentum, give the next teammate a running start, an improved position, and no matter what, my goal is not to drop the baton."

FM CHIP: Nokia has activated the FM chip in its Lumia 925 smartphone, which Nokia expects to be available in the U.S. from T-Mobile this summer. Nokia also has an update to unlock FM capabilities in the Lumia 920, 820, 720 and 520.

TORNADO: Cox Radio parent Cox Enterprises said it would contribute $1 million to support the Oklahoma tornado relief effort, consisting of $500,000 in a cash donation to the American Red Cross and $500,000 of in-kind support, including airing PSAs. Cox also is hosting community fundraisers.

NCEs: An incomplete public file at William Penn's KIGC(FM), Oskaloosa, Iowa prompted an FCC rule change. Instead of levying a penalty for an infraction right away, the commission will now give the licensee an opportunity to negotiate a consent decree. That means the station does not admit guilt, adheres to a compliance plan and makes a "voluntary" contribution to the U.S. Treasury. The change is only for first-time offenders and only for student-run NCE stations.

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World Radio History

It's Broke; Stop Trying to Fix It

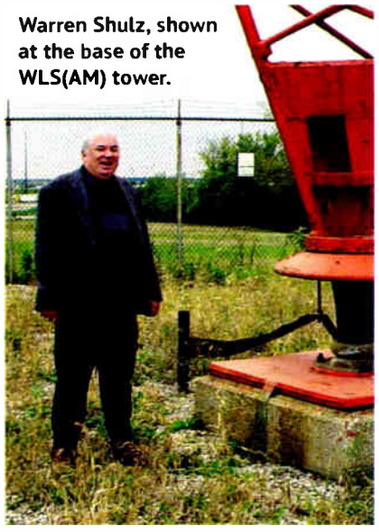
A former state EAS chair believes that the system cannot be saved

GUEST COMMENTARY

BY WARREN SHULZ

I believe EAS "as we know it" should be removed from the public broadcast arena. It is nonfunctional and gives the public and government a false sense of security.

As Frank McCoy pointed out in a recent commentary ("Take EAS Back to the Drawing Board," *radioworld.com*, keyword McCoy), the "spoofing" vulnerabilities run even deeper than have been reported. A low-power transmitter can be linked into a Local Primary entry point to open the gate with the Emergency Action Notification header code, deliver an audio message and lock up an operational area for hours. We saw that in June 2007 when the Federal Emergency Management Agency conducted a closed-circuit test that leaked to air via the Illinois Emergency Operations Center.



Warren Shulz, shown at the base of the WLS(AM) tower.

I was Illinois state EAS chair at the time. A day after the erroneous test, I received a call from the state of Missouri EOC because an unattended station was still linked to its monitor assignment. The leaked test had included the EAN header but had then been aborted; thus, no audio or end-of-message data. Bad choice. The EAN header by itself provides for an immediate takeover yet carries no time-out code.

It's one thing to send a distorted message. It would be a whole other thing to repeat WGN audio over WLS!

TOO MANY SILOS

FEMA planners continue to dump millions into an AM emergency backbone that has a diminishing number of listeners and an aging base of receivers.

What nationwide alert would require immediate alarm yet not be carried by CNN, CNBC, the Internet and general news reporting agencies? The concept has aged out. We have been awaiting a presidential message, over an untested system, since 1951.

When I served on the board of the Primary Entry Point Advisory Committee, a White House representative asked when the last end-to-end test had been done. It was an uncomfortable question: We could report only polling tests; there had never been an end-to-end test. That was 2003. It took another eight years and a lot of conversations to get to the nationwide test of November 2011. And that flawed test showed how ill-prepared the system is.

Government agencies operate in a silo fashion. In my experience, alert center folks don't communicate with FEMA folks; White House communications people don't communicate with FEMA planners. EAS responsibilities span nine federal agencies, give or take, creating a snake without a head. NOAA Weather Radio is an excellent, paid-for solution, but it is another silo without a link to the Federal Alert Center.

EAS won't work unless an EAS czar is appointed to coordinate the overall system; and that's not going to happen.

FIFTY SOLUTIONS

At the end of my tour as state chair, I would tell people at the station level to do only what was required and no more, because EAS is driven by a series of presidential executive orders, which by nature are open-ended statements subject to interpretation.

What is required? Conduct weekly tests, initiated at the station level (radio/TV/cable), data burst only. Monitor two assigned stations for the statewide monthly test, with audio message, and relay a monthly test from the state entry point. Keep a record of tests sent and received. Post the state plan. Be at the ready to air a presidential alert.

That's what's required; anything after that is "voluntary participation."

Further muddying things, a state plan must be prepared by a volunteer EAS committee. It's up to that committee to work out the mechanics to link the state entry point to a Primary Entry Point station or NPR station that sources the EAN alert. You have 50 state plans in the works, developed by volunteers receiving little direction or review.

You may recall the six EAS "summits" subsidized by the NAB and supported by the National Alliance of State Broadcasting Associations. Most of the discussions ended up going no place. The FCC sucked in comment after comment; the whole rewrite of Part 11 went full circle. Yet only the Internet component CAP was added; and the industry spent millions of dollars to add that component. Otherwise, the system is as it was.

Meanwhile, the delivery system has aged and terrestrial radio is no longer in the eye of the public. Best Buy removes radios from the showroom; car guys pull AM and FM sections out of car audio systems in favor of WiFi hot spots. The testing now being aired has a hollow meaning, giving comfort only to regulators.

Oddly, NOAA Weather Radio is a manned operation that reaches EAS encoder/decoders at most radio, TV and cable stations. Yet it is not used beyond weather alerts. In Illinois we did convince NOAA Weather Radio to carry Amber Alerts. It gets the message to radio/TV/cable quickly over the analog VHF channel. Not high-tech, no Internet, no glamour. And it's not in the FEMA, FCC or FOC silos, so it is not deployed.

My point is that EAS cannot be fixed and should be closed down. Rely on cellphone text alerts. If desired, reserve the EAS radio daisy chain for long-form messages. But the system threads its way over so many federal agencies that I don't think it can ever be untangled. Without routine end-to-end testing its operational readiness is an unknown. Its power began with President Truman and CONELRAD in 1951, preparing for an event that never happened. Sixty-two years later we are still preparing.

Comment on this or any story. Email radioworld@nbmedia.com *with "Letter to the Editor" in the subject field.*

FROM THE EDITOR

This guest commentary is from Warren Shulz, former engineer of WLS(AM) and, for 16 years, the state EAS chair in Illinois. He is now retired.

— Paul McLane

World Radio History

THIS ISSUE

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Public Engineers Talk Display Data

PREC2013 attendees hear about metadata distribution, special alerting receivers, Sandy

Photo by Jim Peck

Executive committee members of the Association of Public Radio Engineers attending the PREC were, from left, Paxton Durham, David Antoine, Jobie Sprinkle, Ralph Hogan, Dan Mansergh, Rich Parker and Shane Toven.

BY LESLIE STIMSON

The Public Radio Engineering Conference is geared toward practical information attendees can use right away. It's planned by members of the Association of Public Radio Engineers and intended for their peers, though some of what's discussed applies to commercial stations as well.

Some 65 public radio engineers attended this year's conference at Planet Hollywood in Las Vegas just prior to the spring NAB Show. Among highlights of the 13th annual event:

FORM METADATA DELIVERY STRATEGY

Consumers expect to see information about the programs they're listening to displayed on receivers, said Dan Mansergh, KQED(FM) San Francisco director of radio engineering and media technology.

He discussed the guideline for a standardized XML-based metadata distribution passed by the National Radio Systems Committee. Mansergh chairs the NRSC RBDS Subcommittee that adopted the document.

The point of the G301 guideline is to ensure consistent metadata distribution, all the way from producers to networks to stations. The guideline includes case studies that station engineers can use as examples, he said.

What next?

"As customers of network programs, ask producers to distribute program-associated data. As customers of automation systems, ask for G301 support," he said. Mansergh urged stations to develop a PAD strategy for RDS and HD Radio displays, as well as displays for music players and Internet streams. The next step would be for vendors to automate portions of G301 into their systems, he added.

NPR LABS DEVELOPING TEXT ALERTS FOR DEAF, HOH

Rich Rarey shed some light on NPR Labs' accessible radio project for the deaf and hard of hearing. Rarey is manager of Strategic Technology Applications at the Labs.

NPR Labs was awarded a contract from the Department of Homeland Security and the Federal Emergency Management Agency to create and demonstrate end-to-end text-based FM RDS

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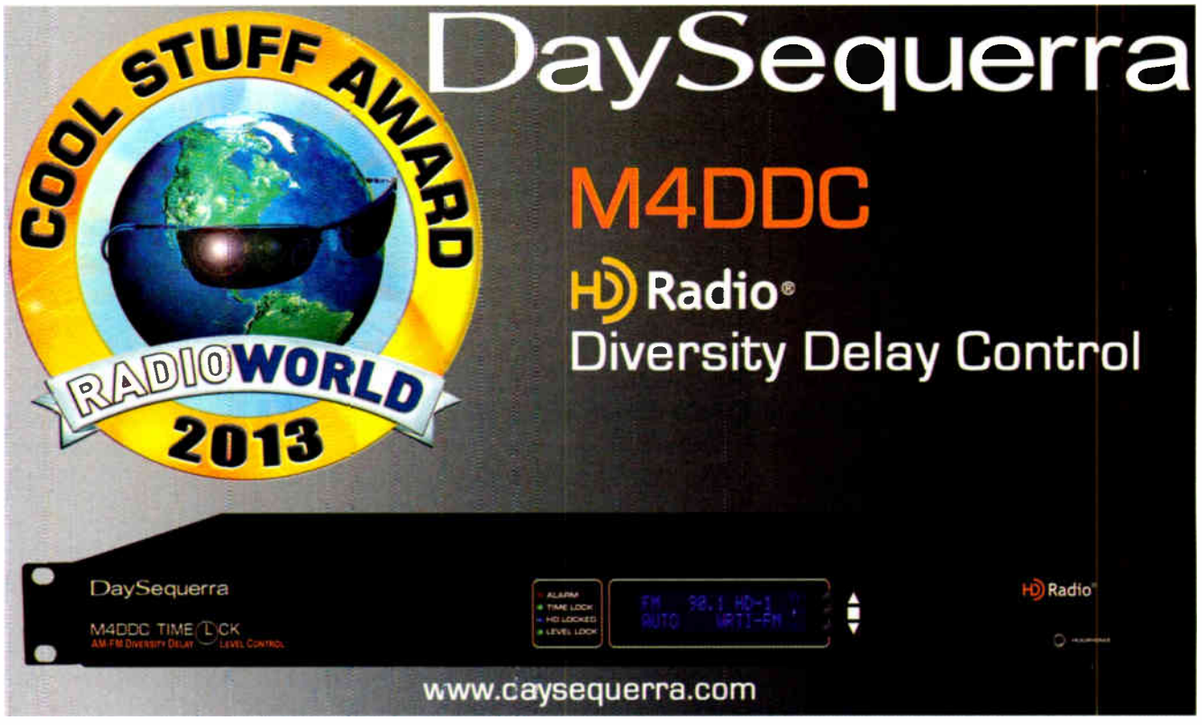

World Radio History

Automation Suit Moves Closer to Trial

Attorneys caution broadcasters not to ignore letters regarding license agreements

BY RANDY J. STINE

The patent infringement lawsuit pitting Mission Abstract Data/DigiMedia against a number of large broadcast groups is likely to move forward now that it appears the patents in question have survived a second reexamination.

The United States Patent & Trademark Office did reject some claims within those patents, which could bolster broadcasters' chances in federal court; but most claims survived.

At the same time, attorneys watching the case caution broadcasters not to simply ignore letters seeking money for a licensing agreement.

Meanwhile, MAD/DigiMedia recently filed suit against four more broadcasters, all with FM stations in Texas. They are Access.1 Communications, Tomlinson-Leis Communications LP, Hunt County Radio LLC and NM Licensing LLC, according to court documents.

As in the first lawsuit, the plaintiffs claim to hold patents involving hard-disk radio automation systems used by broadcasters. The original suit targets CBS Radio, Greater Media, Beasley Broadcasting, Cumulus, Entercom and Cox Radio. MAD sued the broadcasters in federal court in March 2011.

CLAIMS STATUS

The patents have now undergone two reexaminations by the USPTO. Neither federal lawsuit can move forward until the question of patentability is answered, observers said.

In April the patent office issued a "Reexamination Certificate" for one of the patents and an "Advisory Action in Ex Parte Reexamination" for the other. In the first, the patent office confirmed 19 claims; three others were withdrawn. In the second, it confirmed six claims, two were rejected and two others withdrawn (see sidebar). MAD had cancelled and amended some claims after the patent office's findings following the first reexamination.

Separately, U.S. District Court Judge Leonard Stark in late March denied a motion by MAD and associated company DigiMedia Holding Group LLC to lift the existing stay in the first patent infringement suit. Stark wrote that he would lift the stay once the USPTO completes its reexamination. The federal court case has been stayed since November 2011.

iStockphoto/stuartbur

"There is no basis for the court to dismiss the case at this point based on the reexamination results to date," said Bill Ragland, a patent attorney with Womble, Carlyle, Sandridge & Rice, who's not involved with the case. "The question is whether the court will continue to stay the litigation if MAD appeals the rejection of some of the claims on the patent for which a reexamination certificate has yet to be issued."

Regardless, it appears most of the claims in each patent have survived the reexaminations, Ragland said.

Ragland said whenever the stay is lifted, the court will likely consult with the parties and then set a schedule with deadlines for discovery, patent claim construction, motions for summary judgment and other key events prior to trial.

Scott Daniels, an intellectual property attorney with Westerman, Hattori, Daniels & Adrian LLP who also is not involved in the case, said the reexamination is nearing an end, which would clear the way for the judge in the federal suit to set a trial date. However, it could be a "good amount of time yet" before a trial would begin, he added.

Daniels says the radio industry still faces a threat even though some of the USPTO rulings seemingly have gone against MAD, though the level of threat likely has been somewhat diminished.

The USPTO ordered the second reexamination, requested by Broadcast Electronics, last year after "prior art" not previously available was presented. "Prior art" refers to information that was available to the public before a certain date. BE, which is not a defendant in the case, also filed the original ex parte reexamination request with the patent office.

Appeals in the second reexamination may not be done, Daniels said; MAD may appeal any claim rejections to the PTO Board. "If it loses there, it may appeal to the United States Court of Appeals for the Federal Circuit."

> **If you get** these letters, don't throw them away.
>
> – David Oxenford, Wilkinson, Barker, Knauer

He said that some federal judges believe the reexamination phase is not complete until all appeals, even to the United States Court of Appeals for the Federal Circuit, have been exhausted. "Others consider the reexamination certificate to be an 'effective end' to the reexamination and resume a stayed case at that point."

The patent office could also order further reexaminations if new prior art is discovered, he said.

He said the protracted reexamination process is sure to be costing the plaintiffs money, yet the amount likely is relatively small compared to litigation.

SEEK COUNSEL

MAD and DigiMedia Holding Group

(continued on page 8)

THE PATENT NITTY GRITTY

Patents 5,629,867 and 5,809,246 lie at the center of the infringement suit. In April, an Ex Parte Reexamination Advisory Action was issued for the former, while a Reexamination Certificate was granted for the latter. The findings of patent examiner Michael Roswell confirmed a total of 25 claims and rejected two others.

The patents are titled "Selection and Retrieval of Music From a Digital Database" and describe a hard drive-based computer system for use by radio station owners.

Much of the second ex parte reexamination, requested by Broadcast Electronics, focused on "prior art" that subsequently became available. In the first reexamination, prior art submitted by Arrakis and Dalet played a role; the new reexamination findings cite new prior art from Katz, RCS and ENCO along with some existing patents held by several parties not previously viewed by the examiner.

The USPTO Reexamination Certificate for patent 5,809,246 confirmed 19 claims; MAD agreed to cancel three others.

Roswell determined that "prior art does not explicitly teach wherein said communication network accesses said remote music source over a wide-area network," and "while Digilink teaches local-area network communications for the transfer of music, it is silent on the use of wide-area networks for such."

The Advisory Action for patent 5,629,867 confirmed six claims but rejected two others. MAD agreed to cancel two more. The USPTO leaves open the chance for a patent holder to appeal the findings.

The patent examiner wrote: "The patent owner argued Digilink teaches a substantially different redundancy solution that the recited claims 4 and 5 and Digilink fails to teach or suggest a device that is capable of being modified by the addition of an expansion card such as a RAID card." The patent examiner disagreed with MAD.

The USPTO gave MAD three months to respond. Failure to do so will prompt the USPTO to issue a Notice of Intent to Issue Ex Parte Reexamination Certificate.

World Radio History

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ACCESS 2USB

COMPLETE REMOTE STUDIO ON TWO WHEELS

We are pretty sure this is a first – an open-air moving studio broadcast on two wheels (well, six, technically).

All audio was fed to a Comrex ACCESS Portable, complete with optional mixer, which Dan used to mix the live on-air feed as the trio traversed the winding roads of Perth. How did it all work out? Absolutely flawlessly – the show went on without as much as a speed bump!

Dan Jackson, engineer for 92.9 FM in Perth, Australia was faced with a unique challenge. Breakfast hosts Paul Hogan and Lisa Fernandez would be cycling for hours in strong winds and pouring rain as part of the 92.9 Kids Appeal for Telethon.

The unique solution was to equip Dan's bike as a mobile production facility. The talent wore wireless mics AND in-the-ear monitors which communicated with receivers and transmitters in a rack bag on Dan's bike.

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World Radio History

PUBLIC ENGINEERS

(continued from page 5)

alerts to the Gulf Coast states. The area was chosen because it's hurricane-prone.

NPR Labs is working with DHS and FEMA to choose 25 public radio stations in Alabama, Florida, Louisiana, Mississippi and Texas to participate.

Specifically, FEMA will originate the CAP EAS alerts using its IPAWS system and transmit those alerts to the Public Radio Satellite System. The PRSS will retransmit the alerts using RDS to the 25 public stations on a dedicated warning channel. The stations will broadcast the alerts to receivers that can display the text messages.

The idea is to program the receiver to recognize the alert, and prompt the radio to activate a bed shaker and a bright, flashing light.

"Today, people expect to see addressable products," Rarey said, adding that participants are discussing various ways to program the radio "to know where it is" in order to deliver the correct alert.

NPR Labs has developed a prototype receiver for the project.

The endeavor, which got underway in January, is expected to take about 12 months. At the project's conclusion, it would be evaluated for possible rollout to the rest of the country, said Rarey.

LESSONS LEARNED IN SANDY

WBGO(FM) got through Superstorm Sandy "by asking a lot of questions and planning," said David Antoine, chief engineer for the jazz-formatted station in Newark, N.J.

A big question the staff faced was how long they could operate in emergency mode. Antoine finds many radio managers only plan to operate in an emergency mode for a few hours.

Sandy was different; the station needed a plan for much longer. For example, the station put staff up in a hotel, but then the power there went out. "We had to think about how to get them out," he said.

WBGO also now is sure to have an emergency kit on hand. "It sits on a shelf. It has mics, cables, etc.," Antoine said. "We don't pilfer from it. It's ready to go in an emergency." The station also has rechargeable flashlights plugged into studio power outlets and a hand-cranked radio at the ready.

LECLAIR HONORED

The Association of Public Radio Engineers honored Michael LeClair. The chief engineer of WBUR(FM) in Boston CE was nominated by his peers to receive the Seventh Annual APRE Engineering Achievement Award. He also is technical editor of RW Engineering Extra.

The honor is awarded to a single individual for "outstanding contributions" to the art and/or science of radio engineering that have made a "significant impact on, or improvement in" the state of the public radio industry.

Last year's recipient was Mike Starling, vice president, Technology Research Center & NPR Labs. V-Soft Communications President Doug Vernier was honored in 2011.

LeClair has worked at WBUR 27 years. Prior to that, he was technical director at Trinity College-owned WRTC(FM), Hartford, Conn., while attending the school, and then for about five years after that before moving to Boston. The chief engineer at WBUR at the time, Jim Bonney, mentored LeClair.

Photo by Jim Peck

The Association of Public Radio Engineers honored Michael LeClair. The chief engineer of WBUR(FM) in Boston was nominated by his peers to receive the Seventh Annual APRE Engineering Achievement Award. He also is technical editor of RW Engineering Extra.

In his acceptance remarks, LeClair recalled an incident during which he tried to change a tube in the transmitter at WRTC "and the transmitter blew up," taking the station off the air. LeClair put in another tube and the Collins transmitter was "still dead."

He called Bonney for help. His mentor came to the station and trouble-shot the problem, using parts he'd stored. He fixed the transmitter and restored WRTC to air.

"I knew I wanted to be that guy. That was *the* moment I decided to become a radio engineer," LeClair said.

Mentoring is important to the radio industry, LeClair said. "Mentoring is taking someone under your wing and helping them. Mentoring is unpaid. It's saying to someone 'You can do more and I can help you.'" The association noted LeClair's role in helping educate fellow engineers through his work in editing Radio World Engineering Extra.

The award was presented at the annual APRE Engineering Awards Dinner.

NEW OFFICERS FOR 2013–14

The all-volunteer APRE has a new slate of officers for 2013–14.

Paxton Durham, chief engineer WVTF(FM), Roanoke, Va., is now APRE president. Dan Mansergh, KQED(FM) San Francisco director of radio engineering and media technology, becomes past president.

Jobie Sprinkle, director of Engineering/IT at WFAE(FM), Charlotte, N.C., is APRE vice president. Wyoming Public Media DOE Shane Toven is treasurer and Vermont Public Radio DOE Rich Parker becomes secretary.

Other board members are WWNO(FM), New Orleans Chief Engineer Robert Carroll; KBIA(FM), Columbia, Mo. Assistant Manager Roger Karwoski; and NPR Distribution Senior Solutions Architect Bruce Wahl.

Founding APRE President Ralph Hogan remains on the board. Hogan is associate general manager of Engineering & Technology Services for the Rio Salado College Division of Public Service in Phoenix, Ariz. The college oversees Phoenix FM stations KJZZ and KBAQ.

At the APRE meeting, the board unanimously approved additional association members to join them for a three-year term: David Antoine, chief engineer for WBGO(FM), Newark, N.J., and Dan Houg, engineer for KAXE(FM) Grand Rapids, Minn.

Two members are coming off the board: V-Soft Communications President Doug Vernier and Professional Audio Services Owner Gordon Carter.

PATENTS

(continued from page 6)

LLC have embarked on several high-pressure campaigns, as recently as this year, to urge radio stations to sign patent license agreements. Stations typically received letters, followed by calls from MAD representatives, asking them to sign voluntary license agreements.

The NAB and other observers have recommended that stations take these letters seriously and seek legal counsel.

David Oxenford of Wilkinson, Barker, Knauer, reiterated that point to attendees of an NAB Show session. When he asked how many broadcasters had received letters from MAD/DigiMedia, some 50 raised their hands.

"If you get these letters, don't throw them away," said Oxenford. He also advised broadcasters to send copies to the companies that sold the storage and automation systems and ask for their help.

Observers say it is impossible to determine how many broadcasters, if any, have signed patent license agreements but that the number is likely low. Townsquare Media was dismissed from the lawsuit by MAD/DigiMedia in 2011, fueling speculation within the industry that the two reached some sort of settlement and may have entered into a licensing agreement. Townsquare Media at that time did not respond to numerous phone messages and emails from Radio World.

Repeated attempts to reach MAD representatives have been unsuccessful. The broadcasters involved in the litigation also have declined comment, citing the pending lawsuit.

Several financial investment chat rooms and blogs have speculated that MAD and DigiMedia are associated with Intellectual Ventures, a high-profile IP licensing company that has sued several tech firms over patent infringement through the years, including HP, Dell, Acer and Logitech.

RW reported in 2011 that MAD was at one point owned by Intellectual Ventures but no longer is. It's unclear if the current owner is related to Intellectual Ventures. The patents have been bought and sold several times since being issued. Richard Goldman is listed as inventor on the patents, which were applied for in the mid-1990s.

World Radio History

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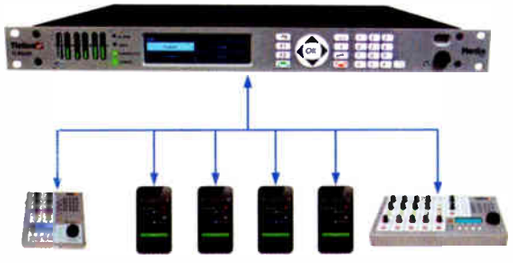

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World Radio History

GLOBAL DIGITAL

(continued from page 1)

"We are very pleased that the EBU recommendation recognizes that, while DRM might be a full solution in some parts of the world, in others (like Europe) it can be an excellent complementary solution to DAB/DAB+," said DRM Consortium Chair Ruxandra Obreja.

The Community Media Forum Europe and AMARC Europe, which represent the community and local radio sectors, both have advocated the use of DRM+ as a digital radio alternative service for community and local broadcasters in Europe and elsewhere.

At the end of April, the Landeszentrale für Medien und Kommunikation, the broadcasting regulator for the German state of Rhineland-Palatinate, announced plans to pursue a migration of local stations to DRM+ once the statewide DAB+ network is complete.

NEW MOMENTUM

Since 2011, Germany has pursued an aggressive national rollout of DAB+ services under the slogan "Radio der Zukunft," which means Radio of the Future. The rollout involves both public and private broadcasters, and includes outside broadcasts, events and other efforts to educate the public about digital radio. Currently more than 90 percent of the German population is within range of DAB+ signals, and network operator Media Broadcast expects to have the full national network complete by 2015.

The WorldDMB Forum credits the German digital radio effort with generating "new momentum to the international rollout of digital radio." Since the largest economy in Europe has moved forward with DAB+, France, Italy, Sweden, Belgium, Poland and the Czech Republic, among other nations, have sped up their investigations of digital radio.

The United Kingdom remains the strongest market for Eureka-147 DAB. According to the first-quarter 2013 RAJAR audience survey, released in May, about 34.3 percent of listening hours are via a digital platform, and half the U.K. population now tunes in to digital radio at least once per week. Some 94 percent of the country is covered by the BBC's multiplexes, and commercial radio covers about 85 percent of the country.

The U.K. government has set forth a commitment to make a decision by the end of the year about whether to proceed with an analog FM switchoff and full migration to DAB. If a decision to proceed with a digital switchover is made, a target date will not be set until digital listening crests the 50 percent mark, which Digital Radio UK projects will happen in early 2016.

Digitalradio in Germany promoted DAB+ with advertisements like this one during Christmas 2012. The text reads, "With my new radio, 'Last Christmas' is also future music," and the tagline is, "Digital radio is better radio."

ELSEWHERE IN EUROPE

In Norway, however, the government's plan for a digital radio switchover is moving apace.

As in the United Kingdom, targets for DAB/DAB+ coverage and listenership have been set and a switchover for most stations could occur as early as 2017. After the switchover, community and small local stations would be allowed to continue on FM. The exact parameters for FM operations are set to be outlined in 2015.

Similarly, in Denmark — where 37 percent of households have a digital radio, according to Danmarks Statistik — a target date of 2019 has been set for a digital switchover.

The Netherlands plans to begin an aggressive public DAB+ rollout in September of this year. DAB services already reach about 70 percent of Dutch households, but 38 new transmitters are slated to come online by 2017, ensuring good indoor reception throughout the nation. Depending upon uptake, the country could begin planning a full digital switchover in 2016.

As digital radio continues to roll out, Jensen said, the push to move entirely to digital should grow, too.

A new Audi fitted with a DAB receiver was on site during a digital radio seminar in Trentino, Italy, in April.

Courtesy WorldDMB Forum

Outside of Europe, Australia remains the strongest market for DAB+, which launched there in metropolitan areas in 2009. According to Commercial Radio Australia, citing Nielsen Radio survey results, 12.3 percent of the population listens to radio with a DAB+ device weekly.

While there is no direct push to synchronize digital strategies across Europe, EBU R 138 suggests that greater coordination could help digitization.

"Harmonization in the timetable for deployment of digital radio across Europe, including a target date for the switch-off of analog radio, would create a greater momentum and market take-up," the recommendation states.

Jensen said, "We anticipate there will be an increase in focus on growth and development of business models for radio via digital. This will lead to increased revenues, which will overshadow the lower revenues generated from analog radio. These developments will lead to the eventual 'fading' away of analog radio in more and more countries. ... Each market is unique in its development and rollout strategy."

SLEEPING TIGER

The "sleeping tiger" for digital radio is India. The national public service All India Radio is upgrading its network of short- and medium-wave transmitters to support DRM30 operation across the country.

"A digital program of the kind envisaged by All India Radio is without comparison in the world and it aims to reach a billion people ultimately," said Obreja. "As it is a serious plan, the rollout will take the time that is the commensurate with this huge task. The next 12 to 18 months are crucial to the upgrade of the AIR network and its DRM conversion."

Private analog FM continues to grow in India; but that is centered in the metropolitan areas, and regulatory limitations on broadcasting news and other

(continued on page 12)

World Radio History

ROC YOUR WORLD

The new ROC console from Logitek

The ROC is paired with the JetStream, a powerful 128-channel networked audio node.

When Logitek introduced its first ROC console back in the 1990s, it marked a revolution in audio console design. One of the industry's first router-based digital consoles, the original ROC boasted simple wiring and access to multiple sources at each fader.

Over the years, the router-plus-console Networked Audio concept has become the standard in console architecture. Although the original ROC was retired years ago, Logitek has continued to develop systems for both TDM and AoIP audio networking. The new ROC takes the best of the original design and pairs it with the latest technology and styling.

Available in multiples of 6 faders (up to 24), the ROC is housed in an attractive tabletop enclosure. Durable Penny & Giles faders, OLED source indication and intuitive controls make the ROC a natural for on-air, production rooms or even in temporary studio setups. Two monitor feeds, front panel headphone connection and user-assignable softkeys will please even your fussiest operators.

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World Radio History

GLOBAL DIGITAL

(continued from page 10)

informational programming mean that AIR remains the country's dominant radio service, which is what makes its three-year plan to migrate to DRM30 so impressive, according to observers.

With a population of about 1.25 billion people, an established tech sector and a growing economy, the potential for a critical market base for DRM receivers is good. The challenge, however, will be to develop affordable DRM or multistandard receivers.

In the United Kingdom, a series of radio, television and print ads featuring the deep-voiced puppet D Love is promoting digital radio.

MORE ONLINE

For a look at the D Love digital radio promotional campaign, go to radioworld.com/links.

RECEIVER MARKET

Around the world, this receiver issue remains the biggest challenge for digital radio.

"The full marketing and availability of mass receivers (in India, for example) can only begin once sufficient DRM content is available and its extra benefits and features can be demonstrated to the public," Obreja said.

For DAB/DAB+, the market is more established, with a variety of receivers available for the home, portable and automobile segments. "There is a wide range of choice available in the 'high street' and online," Jensen said, with prices as low as roughly $26 and expectations that the price would fall to about $20 by 2015. "For example, Germany sees more than 250 DAB+ compatible devices available, and manufacturers are bringing more and more devices to the international market."

The expiration of the original Eureka-147 DAB patent in early 2013 has had a small but significant impact on the cost of DAB receivers, reducing the cost of importing digital radios into Europe and other markets by about $3.30. Jensen said that a drop in retail costs of about $5 is expected by year-end.

The automotive market is also heating up, with 35.4 percent of new cars in the United Kingdom, for example, including digital radio as standard, according to a survey by Society of Motor Manufacturers and Traders.

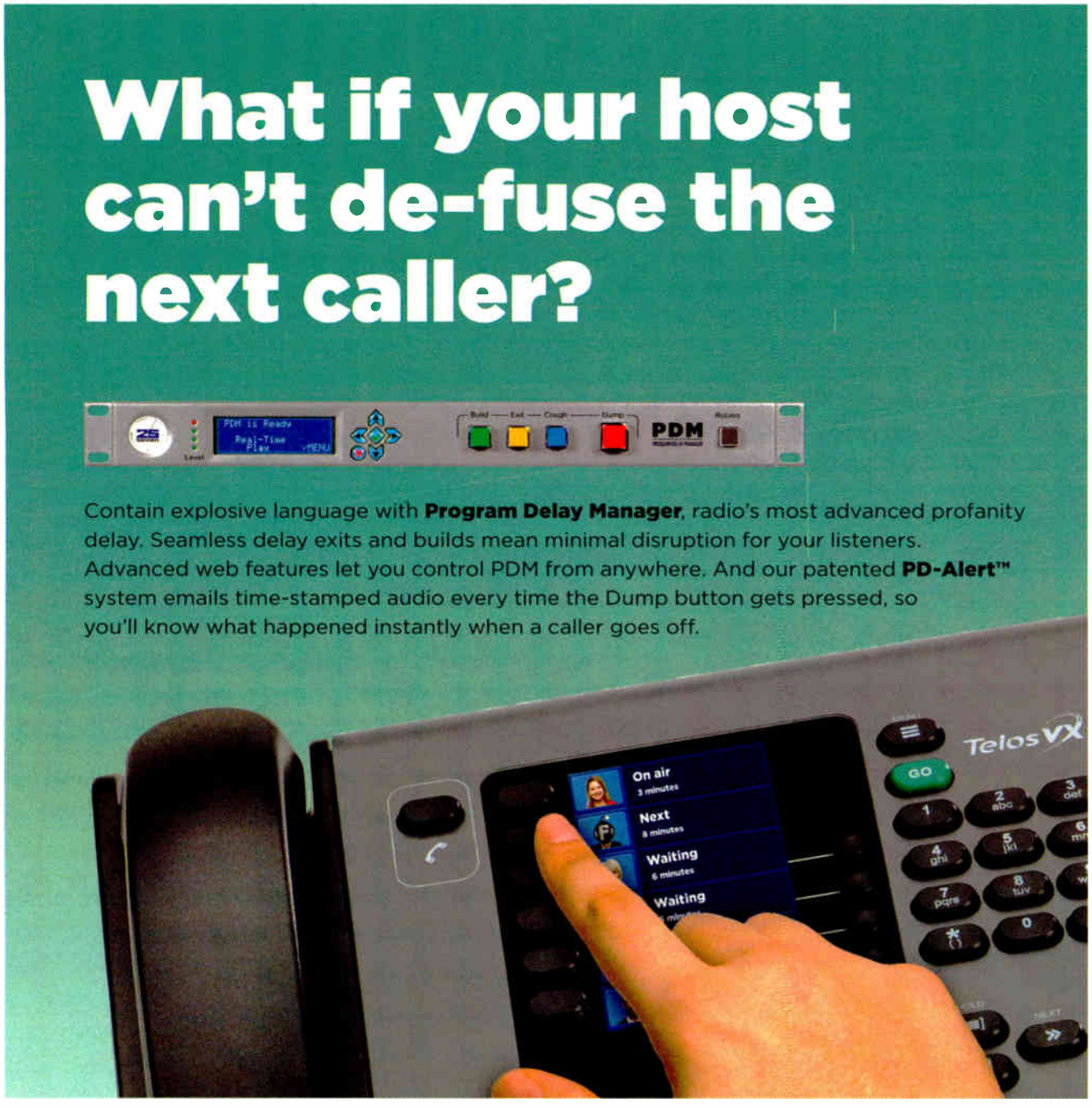
WorldDMB Forum hosted its fifth annual European Automotive Event in May to bring together broadcasters and car manufacturers to discuss issues and trends in the implementation of digital radio.

HYBRID RADIO

Part of the challenge for receiver manufacturers is to develop new radios that can take advantage of still-evolving multimedia services offered in parallel with digital radio audio services.

EBU R 138 encourages the further development, rollout and use of enhanced features, "such as text, images and program guides to keep radio relevant in the digital age." It also recommends the use of RadioDNS-based "hybrid" radio services that make use of IP transmission to complement over-the-air transmissions.

Over the past year, the WorldDMB Technical Committee has developed standards for the use of logos and other visual elements to improve their display



World Radio History

on devices with color touch screens. Its next project looks at how the DAB family of standards operates with IP-connected radios.

"WorldDMB is anticipating enormous growth in apps and business models in the near future" when digital radio chips are embedded inside mobile phones, said Jensen. "The potential is great when broadcast and IP are brought together on one platform and we see a healthy broadcast industry for many years."

Obreja said, "We must remember that no matter which technological platform is chosen by a station or a country, the ultimate aim is to prove the superiority of digital radio, its extra multimedia features and its acceptance by the public."

Another challenge, especially if various broadcast segments adopt differing standards, is ensuring that receivers can "hear" all the signals around them. For example, if larger broadcasters are using DAB+ but local radio digitizes with DRM+, consumers need a receiver that tunes and decodes both.

EBU R 138 "is also important as it calls for the harmonization of digital radio and raises the challenge that we all as an industry know we must address — making multiplatform chips available in all relevant devices," Jensen said.

HD Radio has been deployed overseas as well as in the U.S. and its territories including Puerto Rico. The technology has been officially adopted in Mexico, Panama and the Philippines. In Mexico, 35 stations have converted, including 12 in Mexico City. There are 24 multicast signals operating in Mexico, according to HD Radio developer, iBiquity Digital, which adds that a couple of FMs have converted in Panama and about 10 HD Radio stations are on-air in the Philippines.

Elsewhere in the world, HD Radio station conversions and operations have been reported in Bangladesh, Brazil, Canada, China, Dominican Republic, Romania, Thailand, Trinidad and Uzbekistan. There have been tests and trials in other countries with South Korea and Vietnam probably being the most recent, according to the technology developer.

In Brazil and China, iBiquity has formed joint ventures with other technology developers to address technical and business needs in those markets. In Brazil, iBiquity partnered with a group of technology experts to form Tell HD, which is focused on commercializing the HD Radio system in South America and has rights to iBiquity's IP for that market. In China, iBiquity partnered with a technology developer and others to form HuaSheng Technologies. HuaSheng has the rights to develop and license systems based on iBiquity's IP.

THE ABCs OF DRB

Digital radio broadcasting, or DRB as it is referred to in some countries, is achieved through a variety of technologies and standards.

Setting aside satellite- or IP-based digital radio systems, there are four main families of systems used for terrestrial DRB worldwide: Eureka-147 DAB, promoted by the WorldDMB Forum; DRM, promoted by the Digital Radio Mondiale Consortium; HD Radio, developed by iBiquity Digital; and ISDB-T_{SB}, promoted by DiBEG. Each of these has multiple layers and versions, and has found differing levels of acceptance in separate corners of the world and for assorted uses.

HD Radio has AM and FM versions, and DRM has DRM30 for use in the bands below 30 MHz (AM, shortwave and longwave) and DRM+ for use in FM/VHF. Eureka-147 has DAB and DAB+, as well as T-DMB for video services. The biggest difference between DAB and DAB+ is the codec used. The newer DAB+ standard employs MPEG-4 HE ACC v2, as opposed to MPEG-1 Audio Layer II codec, which allows for more efficient spectrum use.

Just as HD Radio development is greatest in North America and ISDB-T_{SB} is used primarily in Japan, DAB/DAB+ have found its greatest acceptance in Europe and Australia, while DRM30 is in the midst of an ambitious roll-out in South Asia.

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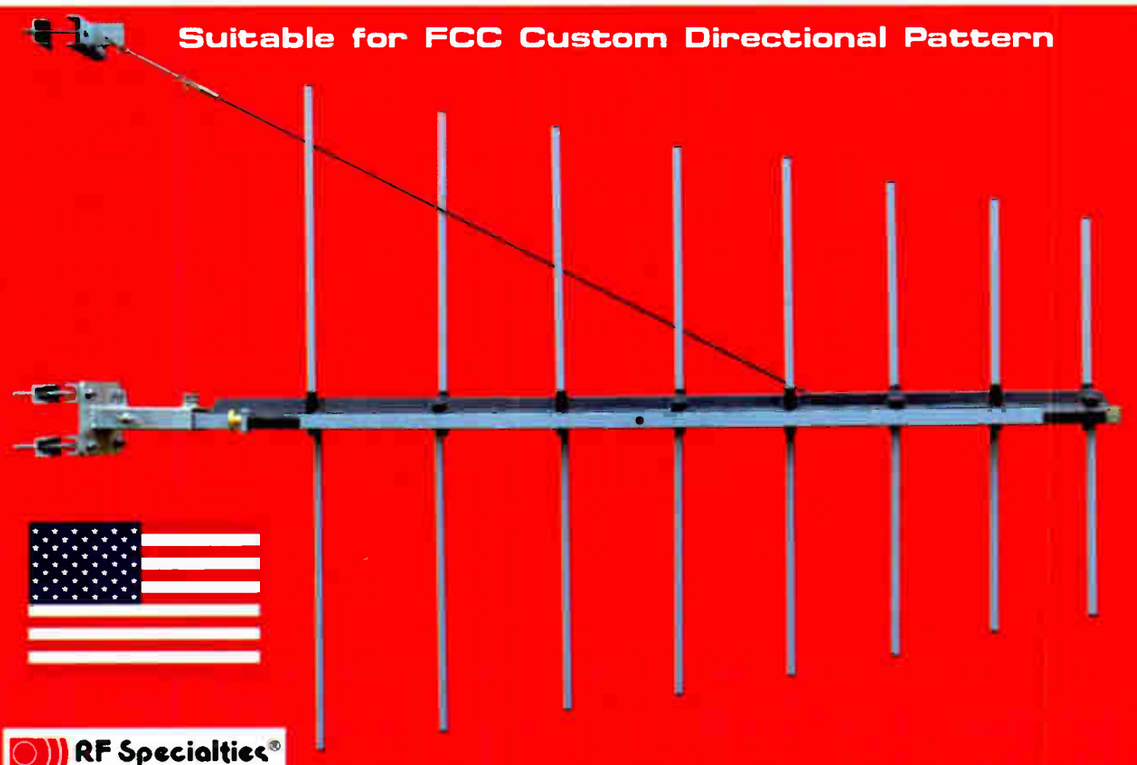

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Visualize Better With Idea Sketch

App helps you create simple diagrams; it's helpful for brainstorming and planning

WORKBENCH
by John Bisset

Read more Workbench articles online at radioworld.com

Steve Smit is the chief engineer for Salem Communications' Twin Cities stations in Minneapolis/St. Paul. He writes in with a really neat tablet app called Idea Sketch.

How many times have you needed to draw a simple diagram but didn't have a drawing program on your computer? Or you're in the field with your tablet or smartphone? Idea Sketch is the answer.

You can draw a concept or flow chart and convert it to a text outline, or vice versa. The app lets you copy text in from another source such as an email or document, import it and create an idea that can be viewed as a diagram and outline.

At *radioworld.com/links* you will find a link to the app and a slick YouTube video showing what it can do. The application is available for both Apple and Microsoft operating systems. The iOS version supports *Box.com*, Dropbox and Facebook, among other features.

Steve, this is a great suggestion; thank you for providing it. Steve Smit can be reached at *stevesmit@salemtc.com*.

Workbench welcomes your own ideas for handy apps. Write to me at *johnpbisset@gmail.com*.

Given our focus on AM maintenance items in the previous column, it is timely that Crawford Broadcasting's Cris Alexander recently included a note in the company's Local Oscillator newsletter reminding the chief of every AM station to make certain that the station's occupied bandwidth measurements are up to date and in the file. Remember, AM stations must do these measurements at least once every 14 months.

And while on the subject of paperwork, it's a good time to make certain that your quarterly tower light inspections are up to date, too. Those of you with MoM (Moment of Method) licenses need to keep an eye on that two-year anniversary of the license grant. You will need to recertify the sample system before that date.

Sometimes engineers of nondirectional AMs can be lulled into a false sense of security when it comes to logging practices. Don't forget little administrative things like this. Thanks, Cris, for the reminder.

Cris Alexander can be reached at *crisa@crawfordbroadcasting.com*.

Continuing our earlier discussion about Optimod power supplies:

Broadcast engineer Paul Sagi has worked on a number of them over the years. He offers an alternative to a complete power supply change-out.

In Paul's case, the issues with these switch mode power supplies were shorted 0.1 nF caps on the analog boards. (Once, an IC that converted between digital and analog was bad.)

The Artesyn SMPS pictured in Fig. 2 is the same or similar to several that Paul has repaired, most recently in Gentner telephone hybrids. In those supplies and seven or eight others, the problem was an open startup resistor. Those resistors often are something like 110k ohms at 2 W and are located near the main input filter capacitor. The 2 W size makes them easy to spot. Replacement is inexpensive and fast. Just be careful not to overheat the PCB traces when de-soldering or soldering in the new resistor; they detach easily.

Over the years, Paul has repaired at least 40 switch mode power supplies; though not an expert, he has repaired enough to spot the problem quickly. Some use a PWM control IC, number UC3842. It fails sometimes, and the 10 uF or 100 uF capacitor connected to them often fails, as does the startup resistor.

(continued on page 16)

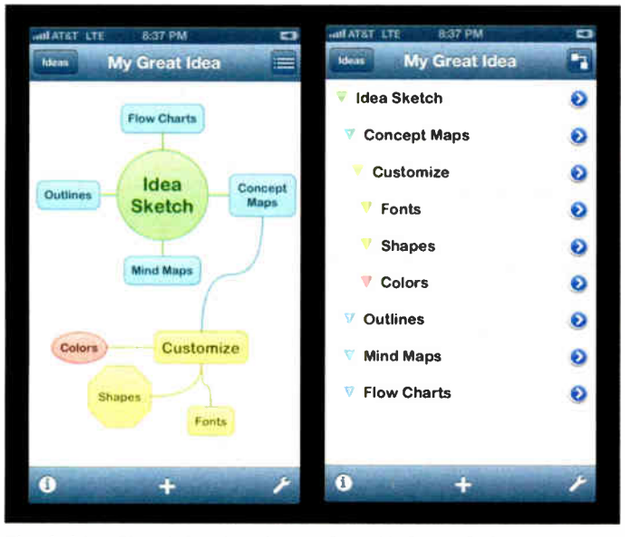

Fig. 1: Idea Sketch is a handy app from NoSleep Software.

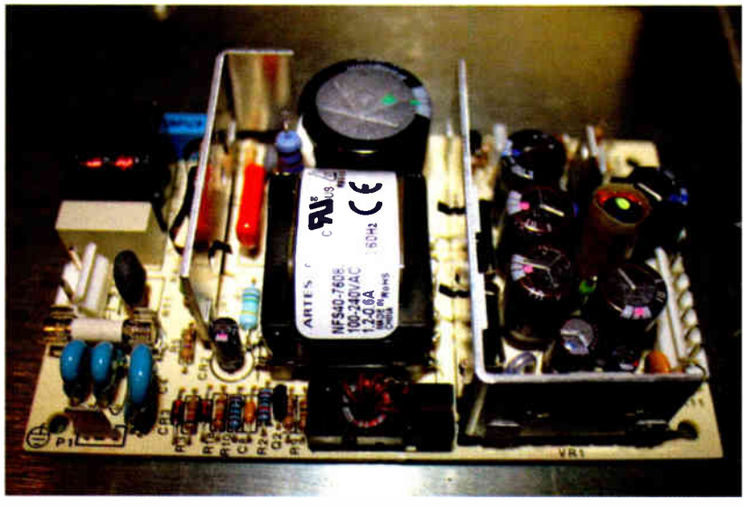

Fig. 2: A typical switching power supply that can be easily repaired, using these tips from Paul Sagi.

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A Western Electric 25B Console at KGY

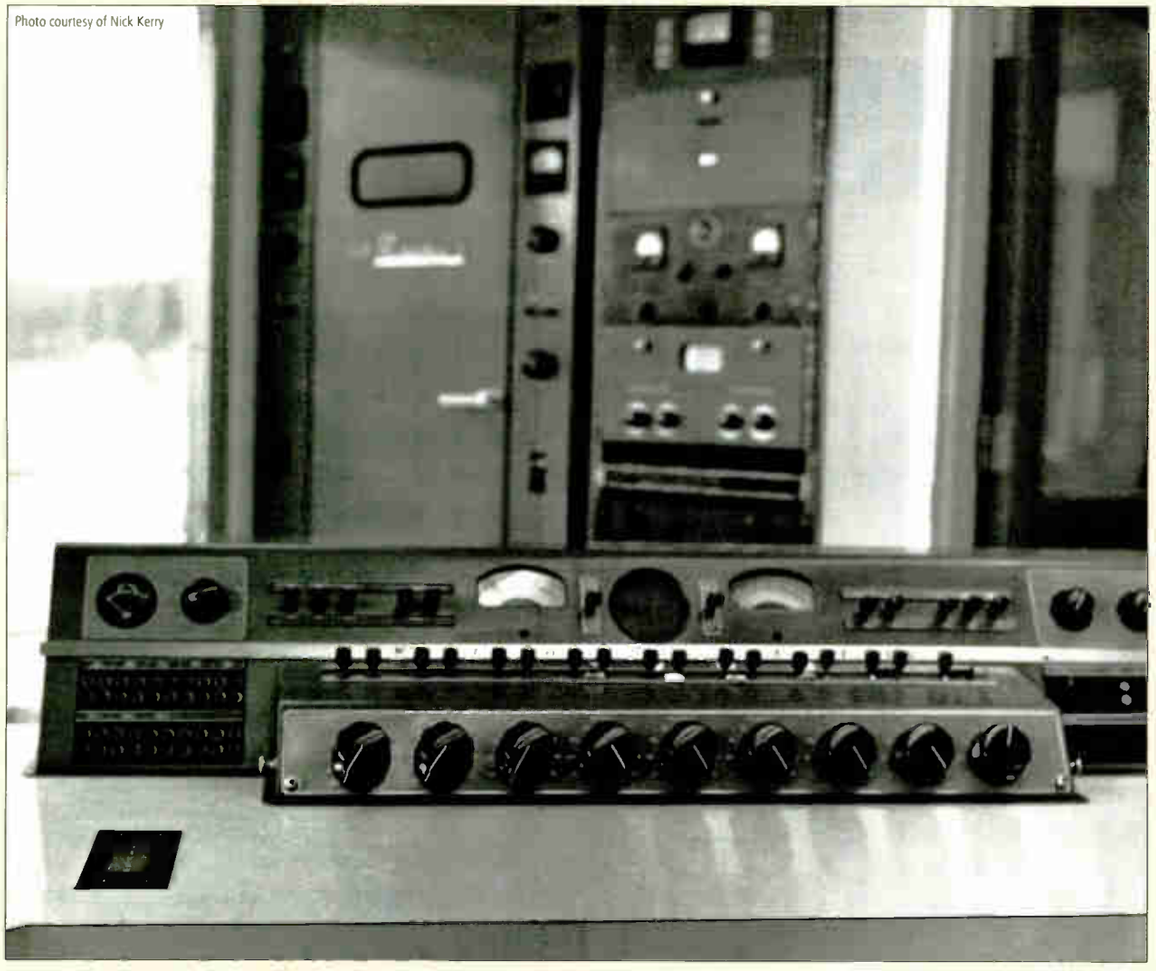
Photo courtesy of Nick Kerry

ROOTS OF RADIO

BY JOHN SCHNEIDER

If an audio console can be a work of art, the Western Electric 25B is certainly one of the most elegant consoles ever made. Its sleek lines harken back to an era when radio equipment was built like a tank and had the lines of a Chrysler Airflow.

The 25A console was introduced in 1942. Within two years, Western Electric advertised that it had sold more than 225 consoles, no small feat at a time when there were less than a thousand radio stations in the country.

The console was built into the included operator's desk, with its passive components on top and the amplifiers below. It was designed for easy servicing — the operating surface opened like a clamshell and the electronics under the table hinged outward for easy maintenance. The power supply was separate and rack-mounted.

The 25B, seen here, was a postwar upgraded version that had improved audio quality for FM broadcasting. Its two audio busses could handle two stations simultaneously, which was convenient for operations with AM and FM under one roof.

In the 1950s, Western Electric was forced to divest of its broadcast products in an antitrust settlement, and Altec Lansing acquired all of its audio products. They continued to make a variation of this console for several more years as the Altec 250A.

(Continental Electronics acquired Western's AM transmitter products, and the FM transmitters went to Standard Electronics.)

AM station KGY in Olympia, Wash., opened new studios on the tide flats of Puget Sound in 1960, and this photo was taken at the time of the opening. This console remained in operation into the mid-1970s. KGY's RCA BTA-1R 1,000-watt transmitter is visible in the background.

One of the country's true pioneer radio stations, KGY began in 1922 as 7YS, operating from a log cabin at St. Martin's College in Lacey, Wash. Tom Olsen, a journalist and Olympia native, purchased it in 1939 and the station today is still owned by the same family. The station manager, Nick Kerry, is Tom Olsen's great-grandson.

KGY operates on 1240 kHz with 1 kW. Its sister station, KGY-FM, began operation in 1992.

John Schneider is a lifelong radio history researcher. Write him at jschneid93@gmail.com. *This is one in a series of photo features from his collection. See past images under Columns/Roots of Radio at* radioworld.com.

WORKBENCH

(continued from page 14)

You can replace the IC with a UC3842N or UC3842AN, as the original has a nasty habit of "lockup."

Another tip: Replacement capacitors in an SMPS must be low-ESR types. (ESR stands for equivalent series resistance.) Capacitors are not pure capacitance but have some value of resistance in series with the capacitor.

Polymer capacitors usually have a lower ESR value than "wet" electrolytic capacitors. Low ESR capacitors usually are more stable under varying temperatures. Using traditional capacitors as a replacement may cause the supply to overheat and fail. Thanks, Paul, for the information.

Reach Paul Sagi in Kuala Lumpur at *pksagi92@gmail.com*.

Generators are gaining in popularity at both the transmitter site and studio. It's easy to forget these behemoths — until they stall or don't start in an emergency. Eliminate the surprise factor and budget a checkup, especially when summer storm season is approaching.

Fig. 3: Don't let weeds eat your generator.

Perform a visual check inside the generator housing. Look for loose or worn belts, bird (or other critter) nests at the air intake, leaking hoses or fittings, and loose hardware.

Starting up the genset is not the same as running it under load. You're fortunate if you have a generator, but make sure it runs as it would when the utility power goes away. Routine testing and inspections are crucial. It doesn't matter what brand generator you have; if you ignore it, the genset will fail.

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

John Bisset has spent 44 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.

World Radio History

Delivery systems from dozens of partners like ENCO, RCS and BSI are Livewire-ready. One RJ, multiple channels. Sweet!

Livewire nodes from Axia partners let you extend your network's capabilities. Import MADI signals, log audio streams, or take hardware-based control of network routing (like this Paravel iRoute does).

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Livewire in Omnia audio processors ensures a clean, all-digital signal path.

Livewire in Nautel transmitters and IDC satellite receivers means you're covered inbound and outbound.

xSwitch: world's first Ethernet switch designed for IP-Audio. 8 Livewire ports, 2 Gigabit ports with SFP, - zero configuration.

Telos family of IP and ISDN codecs are ready to plug in.

Fanless xNodes with PoE pack lots of I/O into a tiny space.

Every family's got a big talker. Here's ours: the world's first broadcast IP Intercom that lets you take full-bandwidth audio to air.

Only Axia builds a network switch into the console engine. Plug in your sources and start broadcasting.

Pro sound cards and audio processors-on-a-card from AudioScience and Sound4 bring Livewire connectivity to your PC.

Now that Livewire and RAVENNA are partners, speakers and mics have a direct connection to your network, too.

XY panels, routing controllers, programmable button panels - you're in total control of your network.

8-fader Radius has 4 mixing buses, auto mix-minus, voice EQ — just like its big brothers.

Consoles? Oh, yeah, we've got 'em, big, small and in-between. This is an Element: over 4,000 raving fans worldwide (so far). Sizes from 4 to 40 faders.

DESQ packs lots of power into a small package. (Like your Aunt Louise's rum balls.) Just 18" square.

iQ: a mid-sized console that can grow from 8 to 24 faders. Powerful, expandable... now, that's smart.

Ooh, shiny! Studio control panels give your talent the power they crave.

Looks small, performs big. RAQ console puts giant-size capabilities into just 4RU.

Hello, it's for you. Telos phone systems work seamlessly with Axia networks (of course).

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Choosing an IP-Audio network? Some companies treat AoIP as if it were an RCA jack — nothing more than a way to get audio into a console. But Axia fans know that the network's real value comes when devices truly communicate.

Axia Livewire™ networks are much more than glorified punchblocks. Axia consoles integrate with a big family of more than 70 broadcast products, from 45 partners, to intelligently share audio, data and control between studio devices with the click of an Ethernet cable.

Phones, codecs, delivery systems, audio processors, profanity delays, pro audio cards and more, all form a sophisticated ecosystem. So phone and codec callers receive automatic mix-minus. Satellite feeds record unattended. Broadcast-quality intercoms can go straight to air. Shows are smoother and more error-free. And Axia is a charter supporting member of the AES X192 standards project, so your investment is future-proof.

So when you choose your IP-Audio network, choose the one with all the connections. Axia: we make the net work.

AxiaAudio.com

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World Radio History

PEOPLENEWS

Barry Thomas said he is no longer with **Lincoln Financial Media**, where he had been vice president of engineering for six years. He confirmed to RW he's exploring his options. Previously he was VP of engineering for Westwood One and co-founder/CTO of StratosAudio. He is former chairman of the NAB Technology Committee and past president of the SBE.

Barry Thomas

Separately, LFM named digital media and advertising executive **Tim Windsor** as its vice president of digital strategy.

Keith Cunningham has been named vice president of programming for **Clear Channel Seattle**. In another Clear Channel appointment, **Steve Stewart** was tapped as regional programming manager for the Wichita, Kan., St. Louis and Springfield, Mo. markets.

Lourdes Garcia-Navarro

The **National Association of Black Journalists** named **Shelley Stewart** the recipient of its 2013 Community Service Award. Stewart is a broadcast journalist, president and CEO of O2Ideas, and the founder of The Mattie C. Stewart Foundation.

CNN Radio's Emma Lacey-Bordeaux was recognized by the **Atlanta Press Club** for her work on audio blog Soundwaves, at a cocktail reception. She was honored with the club's award for broadcast, digital/online reporting.

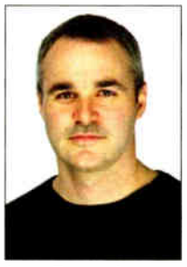
NPR News and member station **WLRN(FM)** in Miami is expanding coverage of Latin America and the Caribbean by opening an NPR bureau in Brazil and adding a WLRN Americas correspondent based in Miami. **Lourdes Garcia-Navarro** becomes NPR's South America correspondent, based in São Paulo; Tim Padgett, former Latin America bureau chief for Time magazine, joins WLRN in Florida.

Jim Meyer is the new chief executive officer for **SiriusXM**. He had been in an interim role since December, when Mel Karmazin left.

Masha Gessen, director of the Russian-language service of **Radio Free Europe/Radio Liberty** (RFE/RL), resigned in order to work on a new book. She held the director position for seven months.

Broadcast Music Inc.'s President and CEO **Del Bryant** will retire in June 2014. The company says the decision will begin "an orderly leadership transition" as the board of directors has formed a committee to determine a successor.

University of Delaware radio station **WVUD(FM)** is adding three members into its Hall of Fame. This year's honorees are **Julian (Pete) Booker**, **Neal Payne** and **Ron "Roadblock" Smith**. Booker, now president and CEO of Delmarva Broadcasting, was a student member of then-WHEN/WDRB radio, and served a key role in its eventual move from carrier current and AM radio to FM, according to Station Manager Steve Kramarck. The late Neal Payne was one of the pioneers behind WVUD's longtime Sunday night lineup of vintage music, according to a statement from WVUD. He created the still-airing "In a Mist" program for WXDR and WVUD and served as host. A mainstay in Newark, Del., Smith has been WVUD's resident blues music expert and host for three and a half decades, Kramarck said.


Jean Francois Gadoury

Thom Callahan

Multimedia consulting, design and integration company **Communications Engineering Inc.** has named **John Humphrey** as CEI's first director of business development, technical services.

Digital service provider **Triton Digital** has announced that **Jean-François Gadoury** has been promoted to chief technology officer.

Former FCC Commissioner **Robert McDowell** is going to the **Hudson Institute**, a conservative think tank. The Republican commissioner, who came to the commission in 2006, left the agency in May.

The board of directors of the **Southern California Broadcasters Association** has chosen **Thom Callahan** as its new president.

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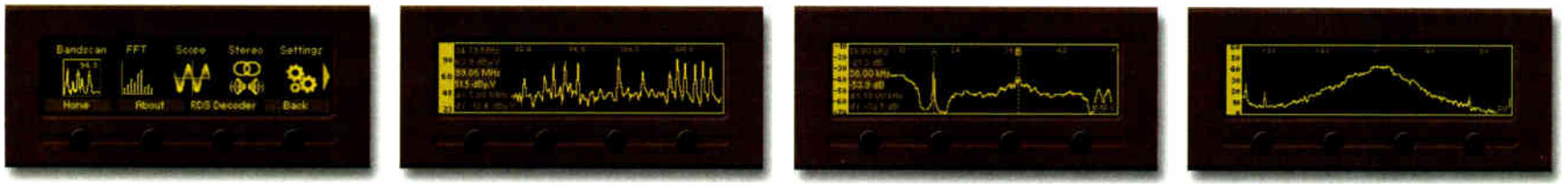

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MARKETPLACE

Exciting News: Broadcast Electronics has a new digital exciter family, the STXe line.

BE says that the STXe FM exciters have a small footprint and thanks to Vector Power Enhancement they can operate in FM, FM + HD Radio, HD Radio only, DRM+ only or HD Radio + DRM+ modes.

The STXe exciter can be operated and monitored via the Internet. That includes SNMP Level 3 communication.

The first model available is the STXe 60, with a power range of 5–60 W.

The STXe exciter is now standard in BE's S and T Series FM transmitters.

Info: www.bdcast.com

Thingies: Accessories developer Goby Labs has an iPad mic stand adaptor it calls the Stand-top Thingy for iPad.

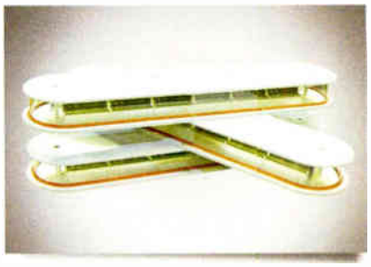
The Stand-top Thingy for iPad, displayed below, is designed to supplant the mic clip adaptor and provide a music stand like platform for an iPad. A thumb release ball joint allows for positioning of the iPad.

Also new from Goby Labs is the Guitar-hook Thingy. Despite the name, it would be perfectly useful for hanging headphones or a headset on a mic stand or boom. The padded Guitar-hook Thingy has a heavy-duty C-clamp-like design for attachment along a stand tube, boom arm or any tube-like element. Toss a few into the remote kit.

Price: Both are $23.95 each.

Info: www.gobylabs.com

Obstruction Lights: Outdoor lighting specialist Dialight debuted at the NAB Show its new Vigilant series, which the company says is the "first all-LED, FAA-certified L-856 (shown at right)/L-864 dual red/white integrated high-intensity beacon system."



The company promotes the series as smaller, more compact and lighter than others on the market.

Dialight Group Chief Executive Roy Burton said, "The new red/white integrated system reduces the number of individual units that must be installed on the tower as well as reducing the number of monitoring devices required."

As an LED design, the Vigilant lights also are energy-efficient along with providing a lower EM/RF interference profile and lowering overall maintenance costs, says the company.

The lights should be operational between –40 and 131 F degrees. There are several different designs for multiple missions.

Info: www.dialight.com

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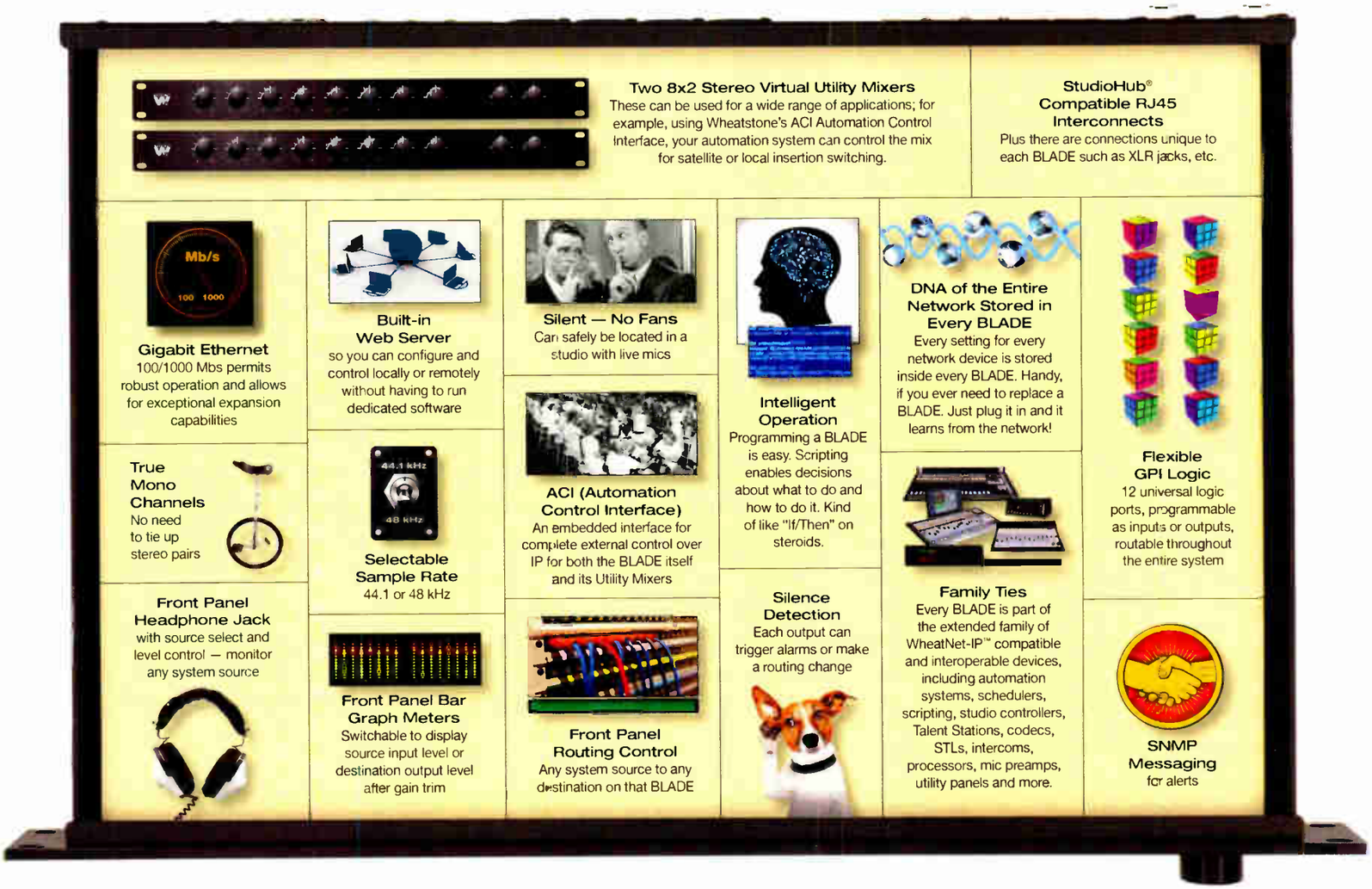

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Ready, Set, Generator!

Don't let the next summer superstorm catch you without trusty backup

TECHTIPS

BY CURT YENGST

In the aftermath of hurricanes, the topic of emergency power is at the forefront of everyone's thinking, as it was after Sandy last year. But let a little time pass between emergencies and it's easy to lapse into an "out of sight, out of mind" mentality.

That is, until another disaster strikes and you're left hoping that this critical piece of machinery can save you once again.

There are simple steps you can take to ensure that emergency power will be there. It's not much different from maintaining your own or your station's vehicles.

OIL CHANGE

For instance, when was the last time you changed the oil in your generator?

When WAWZ(FM) in Zarephath, N.J., ran on generator power for a week after Sandy, Chief Engineer Ron Habegger and I calculated that we'd put the equivalent of nearly 14,000 miles on the engine. Would you drive your car that long between oil changes? (To put this in perspective, that's more than two round trips from New York to Los Angeles, without taking your foot off the gas.)

In a power outage, if you don't have a generator, you don't need a transmitter.

If you were on emergency power during recent storms, but haven't given your generator some tender loving care, now's the time to do so.

Change the oil and coolant. Look for leaky gaskets. Check the belts, hoses and filters. Make sure you have spares on hand. A replacement belt or hose at the parts supplier does you no good when roads are impassable and it's 2 a.m.

In colder weather, make sure the engine has a properly functioning block heater.

Just like with human bodies, exercise is important in keeping the generator fit and reliable. At WAWZ, we exercise ours once a week for 30 minutes. We monitor fuel level, and we top it off immediately if an extended outage is anticipated.

Keith Smeal is director of technical operations for Greater Media New Jersey. All six of his stations were in Sandy's path. He outlines his maintenance regimen:

"Each generator is exercised for 15 minutes weekly. They're also visually inspected for leaks, battery condition and whether any pests — rodents, snakes, insects — have decided to make the generator their home. Each unit has a preventative maintenance service at least once, if not twice, annually."

It's also important to run the generator under load periodically.

"Once a year, we pull the main breaker in order to have a controlled outage," says Smeal. This not only assures proper generator operation; it also verifies properly balanced loads.

If you've added gear at the site (i.e., additional STLs, HD Radio equipment, etc.), you'll need to make sure the generator can handle it.

LISTEN

Regular exercise doesn't accomplish much, however, if you just let it happen in the background. When your generator fires up, do you actually check its performance firsthand?

"I have seen far too many people rely on automatic cycling hardware," says veteran broadcast engineer and consultant David Wilson.

"I highly recommend they listen to it while operating fully loaded. Belts slipping, engine problems, bad fuel, batteries in poor condition, can all be caught if someone is paying attention."

Jay Tee White, vice president of power generation with Cummins Power Systems, says it's important to have that annual or semi-annual checkup performed by a factory-trained technician.

"While I am sure some individuals will be systematic and consistent, I think the professional technician is going to be more reliable in catching issues. A trained technician follows a maintenance or repair plan outlined by the factory and has the current data on that model and unit."

Issues such as defective or recalled components can be addressed. If it's a relatively new generator, problems covered by the warranty can be handled properly.

Your fuel capacity ideally should be enough to keep the generator running for at least a week. Make sure you have a reliable supply chain and that you can reach suppliers in an emergency.

Wilson, having helped stations weather the Nashville flood of 2010, suggests having more than one supplier. Your main supplier may be underwater or otherwise out of commission. Smeal suggests additional temporary storage when a major event is forecast.

If using diesel, be sure to consider additives to prevent problems that arise when fuel is left to sit for long periods. Wilson suggests a tank heater in colder climates. Diesel fuel actually can start to gel at temperatures below 32 degrees Fahrenheit.

Also, it's not a good idea to fill a nearly empty tank while the engine is running, since new fuel flowing into the tank will stir up all the dirt and gunk that settles to the bottom, allowing it to foul the filters.

WAWZ learned this the hard way after several days on generator power. A few hours after we topped off the tank, the engine began to lose power, as did the site. It was a sinking feeling to see our entire site go dark after we stayed on the air through the worst of the storm. Fortunately, the utility company restored normal power less than an hour after the generator died.

The next morning we changed the fuel filters and all was well.

PUT ONE ON A TRAILER

If you're in the market for a generator, here's how to determine your station's needs.

"Generally, load should be at 80 percent of the generator rating," Jay Tee White suggests. "Another alternative is to have a sales engineer from a generator supplier perform a survey for you to size the equipment. If you do want to do it yourself, most manufacturers have a sizing tool to help with the process."

A 100 kW diesel engine at WAWZ(FM).

The WAWZ generator, at right, plus tank.

A full 200 kW generator at WCTC(AM)/WMGQ(FM).

Don't have the budget for a permanent installation right now? A portable generator, mounted on a trailer, could be a cost-effective option.

"We have some customers who are starting to look at portable units that they can move around in anticipation of the potential loss of power with an automatic transfer switch at each of their installations," White says. "If they choose incorrectly, they can redeploy the trailer unit quickly. We're seeing this as a way to spread the investment."

There are portables than can be rented, even bor-

(continued on page 24)

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IP. It's the new ISDN.

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Is IP reliable? TV networks say so - they use it for HD video backhaul. And Z/IP ONE is packed with IP-codec "smarts" to ensure reliability, even over the public Internet. Agile Connection Technology adapts to network conditions, delivering audio quality as good or better than ISDN despite packet loss and jitter. Genuine, high-performance MPEG codecs from Fraunhofer for exceptional fidelity — no lame knock-off codecs. No latency build-up, re-negotiation or fiddly adjustments: Z/IP ONE just works.

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SBE: Outreach and Strategy in 2013

President Ralph Hogan provides an update on several organization initiatives

SBENEWS

BY RALPH HOGAN

The Society of Broadcast Engineers held a strategic planning session in June of 2012 that resulted in several initiatives for the society to explore. In October, the board of directors met again and set an action item to form a number of task groups to cultivate items identified by the board from the strategic plan.

The task groups were charged with developing a plan or proposal for the board to review at its April 2013 meeting in Las Vegas. In January, Strategic Planning Taskforce Chairs were appointed by the SBE president.

The task group chairs have been working on plans for their respective areas of responsibility, and they provided reports at the April SBE board of directors meeting.

WHO BELONGS?

Tim Anderson, CPBE, DRB, CBNT, of Harris Broadcast, who chairs of the SBE Membership Committee, has pulled together a task group to look at who our members should be.

The task group's objective is to identify who the members of the society should or could be, and then to reach out to prospective members, understanding that technology and other factors continue to change the roles members play and the skill sets they are expected to have.

They are also looking at making a reinvigorated effort to attract youth to broadcasting, as part of an official outreach program.

The Membership and Outreach to Youth Task Group reported they had recruited committee members and were working via telephone conference calls on developing strategies for obtaining additional information on potential members.

Meanwhile, Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE, of Texas A&M University, chairs the SBE Education Committee, which is looking at increasing support to chapters through chapter leadership training.

Ralph Hogan, SBE president

The Education Committee plans to present one or more webinars geared toward helping members understand what goes into running a chapter. The committee has asked Barry Thomas to take the lead on this effort.

The goal is to release a webinar this year that might include these topics: Officer positions required by National, financing the chapter and managing the chapter bank account, governance, chapter administration, the structure of a meeting, program recruitment and what makes a good program, meeting location and time, and nominating committee and recruiting volunteers.

NEW AWARDS

John Heimerl, CPBE, of WHRO(TV/FM), chairs the SBE Awards Committee. It was charged last year with the task of revamping the SBE National Awards Program to involve more participants. The committee developed a proposal for a coordinated plan to create a "Chapter Engineer of the Year" award for each SBE chapter.

The proposal was approved by the board on Feb. 11. The plan provides national support through application forms and guidance on selection standards, while allowing individual chapters to determine their own method of selection.

There will be national recognition for "Chapter Engineers of the Year" in The Signal, the SBE's member publication. Chapter recipients automatically will be entered into consideration for the national Robert W. Flanders SBE Engineer of the Year Award.

As before, individuals may still be nominated for the national award by other SBE members. This allows for circumstances where a member is not able to be associated with a specific chapter.

This will be the first year for the new process. The specific goal is to raise awareness of both chapters and individuals. The committee expects to measure success this summer and present any adjustments needed to the board in the fall for future years.

BRANDING

Joe Snelson, CPBE, 8-VSB of Meredith Corp. and SBE vice president, has assembled a group to look at branding of the SBE, at how the society brands itself to reflect changes in technology and other factors that continue to change the roles its members play and the skill sets they are expected to have.

John Poray, SBE executive director, has contributed a timeline with milestones toward the goal, which is that this committee can issue its report to the board for possible consideration and action in October.

While the committee feels the timeline is achievable, they are also aware that the subject of branding the society is not one to be taken lightly.

Chris Imlay, CBT, the society's longtime general counsel, and I are co-chairs of the SBE's planned 50th anniversary celebration in 2014. We are assembling a task group that will develop a proposal for the board's consideration that will use this unique opportunity to demonstrate to the industry and the public the significance of member contributions to broadcasting.

Some of the items likely be included in the celebration will be a special anniversary logo and slogan, the development of national and local commemorative events designed to involve as many SBE members as possible and a commemorative token.

The task group plans to create an historical timeline that depicts major events in the history of the SBE since 1964 and publish historical articles in The Signal that represent the five decades of SBE's history.

With the blessing of the SBE board of directors, taskforce chairs are developing proposals that will implement many of the strategic plan initiatives. Taskforce chairs will provide another update on their progress during the next SBE Executive Committee meeting in June.

Ralph Hogan, CPBE, DRB, CBNE, is president of the Society for Broadcast Engineers.

GENSETS

(continued from page 22)

rowed. Mick Rapeer, chief engineer of WODE(FM), Easton, Pa., maintains a good relationship with a local cable company that let him borrow a 50 kW generator during Sandy.

"We ran only necessary equipment and only auxiliary transmitters on low power for about three days."

Having such a relationship in place long beforehand can make a world of difference, especially when rentals are scooped up in the wake such an event. Even if the loaner is only large enough to keep your main studio and an exciter on the air, it's better than nothing.

Bill Clanton, station engineer at WRAT(FM), checks up on the genset.

The station's emergency generator is as important a piece of equipment as your transmitter. Think about it; in a power outage, if you don't have a generator, you don't need a transmitter.

"We so often have redundant systems, but only one generator," said Smeal.

Curt Yengst, CSRE, is assistant engineer for WAWZ(FM) in Zarephath, N.J. He also works as a freelance recording engineer and assists at WBPH(TV) in Allentown, Pa.

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Report-IT Fills the Bill in Boston

Tieline smartphone codec app makes field ENG simple

USERREPORT

BY PAUL SHULINS
Director of Technical Operations
Greater Media Boston

BOSTON — Over the past year and a half, I have been using the Tieline Report-IT application for the iPhone for Greater Media's five-station cluster here.

This software product is an application for the iPhone, licensed per user, that communicates back to a hardware device such as the Tieline Bridge-IT codec, which can be permanently installed at the studio and connected to the public Internet to receive live or prerecorded audio automatically from the field.

The interesting aspect is that this product takes advantage of existing hardware (who these days does not have a smartphone?) and uses it as a codec over the existing 3G/4G cellular infrastructure to provide high-quality bidirectional communications between field reporters and studio with minimal coding delay.

One huge advantage here is that you can travel just about anywhere in the world with your iPhone, yet be on the air instantly with 15–20 kHz quality audio, with no need for advance planning.

This can be an important tool for stations that need to cover events which cannot be anticipated, like breaking news stories, or that want to immerse themselves in the community by responding to local events on the fly. Because it is bidirectional, a mix-minus feed can be heard from the station, eliminating the delay problems associated with HD Radio off-air monitoring.

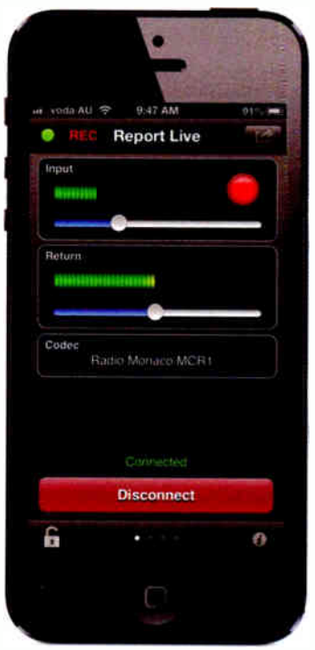
LICENSING OPTIONS

So the big question is: Does it work? In a word, yes. The system has been very reliable for us.

Of course, external factors like the capacity of the cellular network, your remote location and the bandwidth you allocate within your facility for the Bridge-IT device, have a bearing on the overall performance of the system. However, whenever we needed to use it, we were able to connect with no issues.

The application has features like a built-in audio recorder and optional audio editing capabilities, so your material can be uploaded to your FTP site, and automatically imported from there into your digital delivery system for automatic broadcast.

Tieline sells a mic adapter that allows field reporters to use their iPhone 4, or 4S, to make a hardware connection to a professional microphone via an XLR connector. We have found the audio quality to be very good, especially when combined with this accessory.



There are three licensing options available for the iPhone: The Report-IT Live for individual iPhones; the Report-IT 10 Pack for teams of 10 users, with the ability locally to manage who those users are; and the Report-IT Enterprise 50/100 Pack for larger operations. All three are the same physical product. There is no annual subscription for the first two options. Once you purchase your software, you are done.

The product's real power is in how it leverages your existing cellphone hardware to provide real-time and recorded audio capabilities back to your station with no planning. It is simple to set up and use in the field. The only downside is that you need to manage your licenses carefully, and make sure you have enough bandwidth at both ends to provide reliable service — which, in this day and age of 4G cellular service, shouldn't be a problem.

Tieline has produced a clever product that can help bring broadcasters closer to the communities they serve. I plan on continuing to deploy this software, as needed, to allow us to take our remotes to the next level.

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

Paul Shulins demonstrates the Report-IT app loaded on an iPhone resting in Tieline's Mic Adapter.

ABOUT BUYER'S GUIDE

Radio World publishes User Reports on products in various equipment classes throughout the year to help potential buyers understand why colleagues chose the equipment they did. A User Report is an unpaid testimonial by a user who has already purchased the gear. A Radio World Product Evaluation, by contrast, is a freelance article by a paid reviewer who typically receives a demo loaner. Do you have a story to tell? Write to **bmoss@nbmedia.com**.

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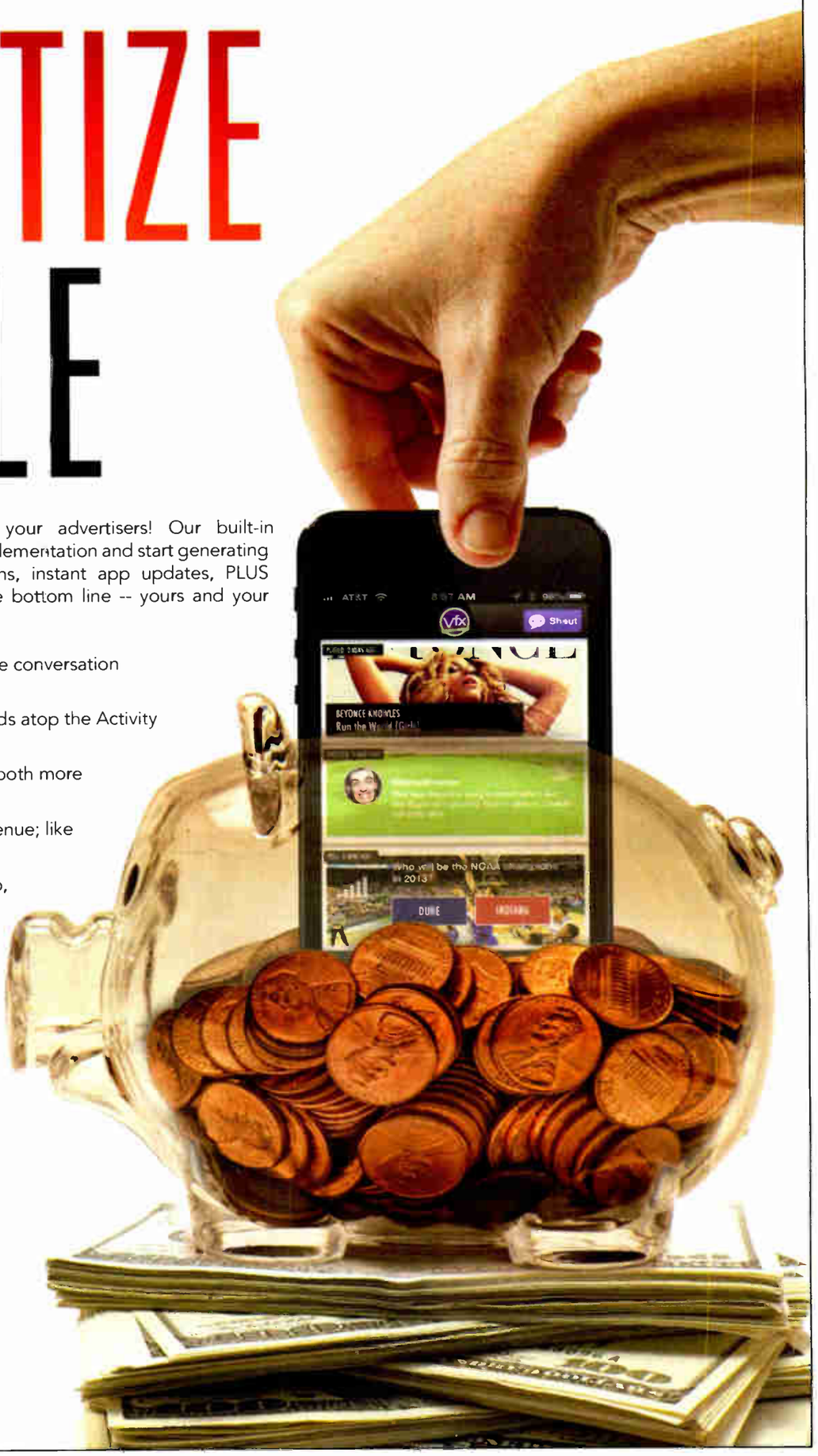

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World Radio History

RTBF Takes Digigram to Chicago

V*MOTE codec enables Belgian broadcaster to have live coverage of 2012 U.S. elections

USERREPORT

BY LAURENT FLEMAL
Digitization Division
RTBF

BRUSSELS — During the 2012 U.S. presidential election, Belgian national TV and radio broadcaster RTBF sent a team of audio engineers to Chicago, Ill., to manage live coverage from a restaurant in the area and ensure smooth delivery of audio to our main RTBF studio in Brussels.

We were able to configure this unusual location into a mobile studio thanks to Digigram's V*MOTE, a software-based codec. The software met our requirements for a light and reliable solution, capable of matching the local IT infrastructure constraints and delivering high audio quality.

The main challenge our team faced was to set up a mobile solution that would ensure live coverage, using a public Internet network, without interruption. Sound engineer Miguel Allo worked onsite to set up and manage a studio at the Chicago restaurant — without any specific network infrastructure — to generate a live feed between Chicago and Brussels throughout the election night. The feed consisted of live interviews and commentaries over prerecorded audio.

Although we were facing complex technical conditions, we made the choice to rely on a fully mobile solution that allowed us to ensure the live broadcast and the recording of this worldwide event that matched our high-quality audio standards.

The solution we implemented for our live election coverage centered on Digigram's V*MOTE audio over IP software solution. We installed Digigram's Ultra Mobility solution, which provided the on-scene RTBF reporter with the V*MOTE software codec running on a laptop equipped with the Cancun soundcard while the Brussels-based studio used the Iqoya *Call/LE hardware codec.

Relying on a symmetrical RTP protocol, the team used HE-AAC v1 64 kbps codec algorithms for the two-way link between the Chicago studio and the Brussels studio. Everything got up and running perfectly. The audio quality was excellent, and we had the impression that the reporter was located in our studio in Brussels.

Overall, this broadcast operation resulted in almost 12 hours of live content, without any drops from the local network, even at a time during which the team could have faced some network saturation due to all of the competing reports that night. We particularly appreciated the ease of use of V*MOTE, the ability to deploy a completely mobile solution and the capacity to set-up a simple and cost-saving infrastructure, in terms of both human and technological resources. We were amazed.

For information, contact James Lamb at Digigram/PointSource Audio in California at (415) 226-1122 or visit www.digigram.com or www.point-sourceaudio.com.

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World Radio History

TECHUPDATES

VERICORDER TECHNOLOGY UNVEILS UPGRADED VODDIO

VeriCorder says its Voddio is an advanced smartphone editing app designed for radio journalists.

The new Voddio app has been upgraded to include a management system on the backend, and now offers full newsroom integration.

Voddio allows radio reporters to cut clips or full package pieces, and send them with a script to their newsroom system of choice. It works with Burli, Dalet, Newsroom, NewsBoss, EZ News, and many others. Files arrive with XML metadata included, so files are automatically ingested and displayed as stories within the client's existing newsroom management system.

Voddio is also now integrated into the Voddio Console management system, and to the FindStringers freelance management system. Voddio Console can switch app licenses between reporters, manage access to servers, remotely activate freelance reporters, monitor content and assignments and even show reporters' location.

Users can also edit audio slideshows or full video packages, and post these to a radio station website.

On the backend, Voddio now offers automated online transcoding for both audio and video. Scripts and audio arrive ready to publish from current newsroom software.

Voddio exports audio as 44.1 kHz or 48 kHz WAV files, but can also automatically transcode to multiple formats. Video can also be transcoded to multiple sizes and formats, for play-out on any browser or device, and delivered along with a written story to the clients' website CMS or video player.

For information, contact VeriCorder in British Columbia at (250) 448-4954 or visit www.vericorder.com.

DIGITAL JUKEBOX HAS REMOTE INTERNET VOICE TRACKING APP

Digital JukeBox says that it released its first revision of the Remote Internet Voice Tracking app for DJB Automation in 2008 in XP Pro compatibility. DJB Software has retooled the product for full 64-bit operation with Windows 7 and Windows 8 use in tablets, notebooks and desktops running those operating systems.

Digital JukeBox Remote Internet Voice Tracking (RiVT-DJB for short) is a single app that communicates directly with the iVT server built into Digital JukeBox automation for radio systems. The Win 7/8 version of RiVT-DJB is compatible with the RVT servers built into DJB V12 legacy systems or with the new DJB-II radio automation systems.

Communications from remote talent with the radio station automation site are made using a virtual private network. The RiVT app establishes communications with the iVT Server at the station site and downloads the heads and tails of audio within the daily station log called and audio that is relevant to the Remote Voice Track log positions. This feature gives talent the listen-to tail and listen-to head once the voice track is recorded.

Remote talent is also prompted by the RiVT-DJB app for the exact record time of the voice track recording required and then RiVT-DJB automatically assembles the finished voice track into the log using ducking, mixing and final audition play-out for the talent to experience. Talent can rerecord the voice track or simply submit the finished product when done.

Digital JukeBox automation software packages which include the RiVT-DJB Server software at the station and client app at the talent remote start at $1,495 for the complete system.

For information, contact Digital JukeBox in Nevada at (702) 487-3336 or visit www.digitaljukebox.com.

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IP REMOTES GO HANDHELD FOR TELOS Z/IP ONE OWNERS

Owners of Telos' Z/IP One IP codec have a new tool in their remote kit: the ability to originate broadcast-quality remotes over IP using popular smartphones and tablets equipped with Technica Del Arte's Luci Live and Luci Live Lite wideband audio apps.

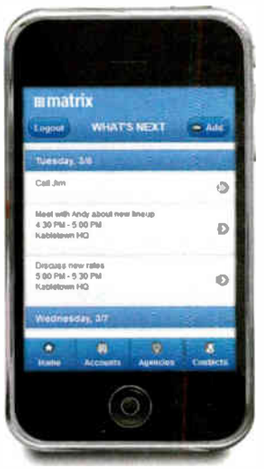
Z/IP One connections to Luci Live and new Luci Live Lite apps are supported in Z/IP One software v1.7.0, a free download available by visiting the company website. This update gives users the ability to originate high-quality HD Voice remotes using any Apple or Android portable device with a Wi-Fi, 3G or 4G connection.

With this free Z/IP One upgrade and the Luci Live or Luci Live Lite software, field reporters can use their smartphones to make IP calls to studio-side Z/IP One codecs and do a handheld remote. This capability is suitable for ENG, quick high-quality remotes and interviews, using one of the many pro mic/headphone breakout accessories available for mobile devices.

Also included in Z/IP One's v1.7.0 upgrade is an implementation of Symmetric RTP connectivity, which further simplifies IP remotes by facilitating an IFB feed from the studio back to the field using the same firewall port employed for the initial connection.

For information, contact Telos Systems in Ohio at (216) 241-7225 or visit telos-systems.com.

MATRIX OFFERS MOBILE APP



Matrix is a hosted, Web-based software system that provides customer relationship management (CRM) and sales analytics functionality.

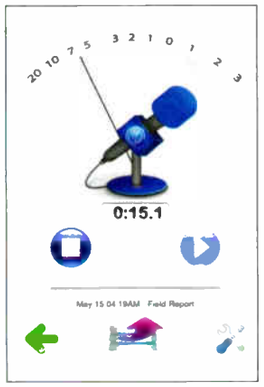
Users of Matrix now can access the system anytime and anywhere through a mobile Web app on their tablets or mobile devices. This eliminates the need to be tied to a desk to create and capture the data relevant to managing CRM and sales activity. The company says the nature of the Web-based solution is that all data is automatically synchronized, up-to-date and happening in real-time.

The mobile app allows the user to access, view and update account and contact records. Users can log and manage account activity, such as calls, meeting notes and future tasks. They can view who owns what account — if new or old accounts are uncovered on the go, the account executive can send a request to the sales manager — to add a prospect. In addition, users can view dashboards at login to get an up-to-date snapshot of what's happening or what needs to happen.

The system provides the ability to categorize accounts by account executive, geographic territory or platform, such as radio or Internet. It also normalizes the data, i.e. if one radio station in a group has "McDonalds" listed without an apostrophe and another station in the group has it listed with an apostrophe ("McDonald's"), Matrix will normalize the data, knowing that both McDonalds(es) are one in the same. This makes transforming and analyzing the data in consolidated station groups, etc., more efficient.

For information, contact Matrix Solutions at (877) 687-9066 or visit www.matrixformedia.com.

ENCO RELEASES ENDROID FOR ANDROID DEVICES



ENCO Systems' enDroid is a mobile app that offers remote audio production and control from any Internet-capable Android device.

Audio can be recorded in the field and delivered directly to the main facility's automation system via the Internet. Additionally, the enDroid application can remotely control several functions of ENCO's DAD software, allowing the remote user to do things such as start breaks, switch remote broadcasts to air, record feeds or initiate emergency off-air procedures.

EnDroid works much like ENCO's iDAD app for iPhone and iPad. All require ENCO's Interchange software to be installed at the main facility to act as a bridge between the outside world and the DAD automation network.

EnDroid is free and available through the Google Play. Interchange is licensed on a per-site basis.

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

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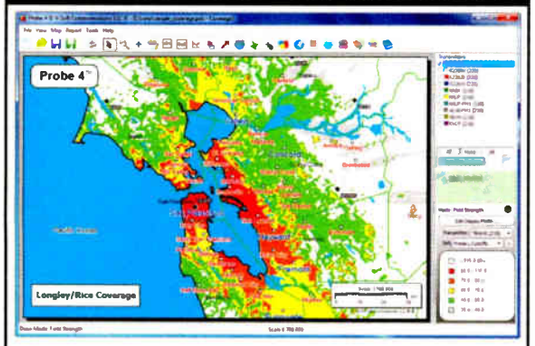

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Looking for a broadcast excerpt of a SanFrancisco Giant's taped off of KSFO radio from 1959, interviews with Willie Mays, Dusty Rhodes & some play by play excerpts, also features a homerun by Willie Mays and Felipe Alou stealing second base, running 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.

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World Radio History

It's High Time for an AM Update

When FCC wrote the rules on AM, today's conflicts didn't exist

COMMENTARY

BY TOM OSENKOWSKY

Tom Osenkowsky

Regarding Ben Dawson and Ron Rackley's commentary, "Take a Fresh Look at AM Rules" (Radio World, March 27), I wholeheartedly agree that the FCC rules governing AM broadcast need refinement, since they were crafted at a time when the landscape of radio was very different. In many communities back then, AM was the primary source of broadcast news and information.

Receivers were more sensitive than those of today. There were no computers, DSL, BPL and solid-state devices to contribute to an elevated noise floor. Auto radios had vertical antennas, which were more efficient than today's stealthier counterparts. Population was distributed differently. Directional arrays were located wherever possible, to serve an audience that is today more geographically diverse.

Where nulls or minimas may have once fallen over fields, the pastures of yesterday have evolved into condos, strip malls or populated areas. In some cases, transmitter site real estate has appreciated in value such that relocating a tower is a wise business move.

None of the above was in sight when the FCC rules were written.

Then there's the fact that AM music formats began to migrate to FM, cassette players, CD changers, satellite radio, Internet radio, iPod, etc. And USB interfaces found their way into automobile radios. And windshield and other less-efficient antenna designs prevail, as do less sensitive, narrowband receivers.

All of these pose a disadvantage to AM broadcasters.

AM stereo, required annual emissions measurements, NRSC pre-emphasis standards, expanded band and other technologies have not significantly increased AM listenership. AMAX standard receivers were never mandated in the marketplace.

Stations that want or need to relocate their transmitter facilities find themselves bound by restrictions that don't help but

hinder serving the public. For example, a station that wishes to diplex with another may not be able to do so, given the requirement for city of license coverage. Another may wish to employ a radiator that does not meet the minimum efficiency requirements. The use of such a radiator may be the sole option that satisfies neighbors and the local zoning board.

Ground system requirements often prevent the use of a site where a system of lesser or alternate design may permit the move and provide adequate coverage.

AM stations now benefit from the use of modern computer modeling tools and vector analysis instruments. The AM broadcast service is not unlike an old commercial building with modern tenants. The utility infrastructure was not designed to accommodate computers, server rooms with air conditioning, and uninterruptible power sources.

Considerable retrofit is required to meet contemporary needs. The FCC needs to revisit and examine rules pertaining to the AM service, and apply revisions that will help maintain and boost its ability to serve today's and tomorrow's needs.

Tom Osenkowsky is a radio engineering consultant in Brookfield, Conn., and a longtime RW contributor. He has been in the radio broadcast industry since 1975. Opinions are his own.

CORRECTION

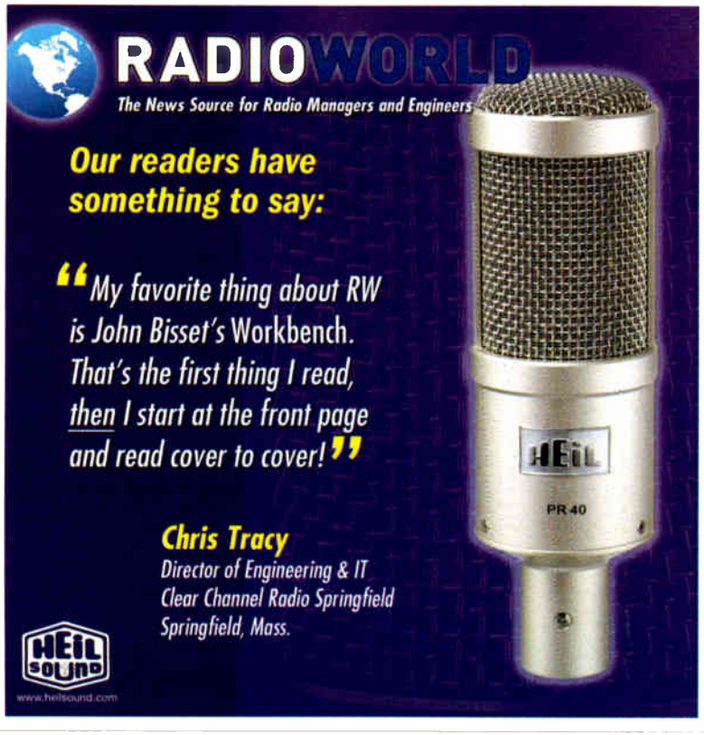
AN IMPORTANT DISTINCTION

Contributor Oliver Berliner writes:

I hasten to provide a correction of a misstatement I made in the May 8 article in Radio World, "The 'vu' Meter Legacy Shines On."

When 1 mW of power is indicated on the vu meter, the voltage on the 600 ohm line will be 0.7746 and the pointer will be at –4 vu. When the pointer reaches "0," the voltage will be 1.228 and the meter will be indicating "zero level," +4 dBm; which in 'politically correct' lingo is 4 vu, according to the definition — not +4 vu, as we are wont to say.

Oliver Berliner
CEO
SounDesign Engineers
Beverly Hills, Calif.



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World Radio History

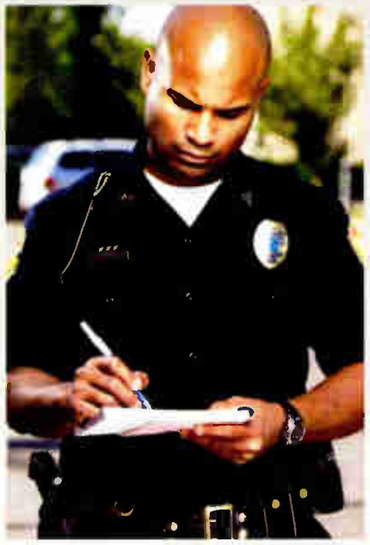
Radio World Talkback

Comments shown were posted by readers to stories that appear at radioworld.com.

"What I'd like to know here is how the 'well pump' caused the interference. I wonder if there is a Variable Frequency Drive (a VFD) in use on this pump, and [whether] this drive is improperly installed. If the VFD is not grounded through the electric panel or at the pump it will cause interference around the house, unless there's a ham operator nearby. Very interesting."

"Okay, so this poor guy gets cited, but the city here has two lift pumps next to an interstate highway ramp that totally wipes out all MW AM frequencies when you're within a one tenth of a mile of it, and yet they don't get cited for interference?"

"Why didn't the ham operator try to help this guy resolve his problem? That's what a good ham would do. It seems to me that in this case, the commission has overstepped its authority. They should have cited the 'ham' who filed the complaint."



iStockphoto/Jacom Stephens

'Ham interference? Afraid I'll have to write you a ticket for that ...'

— on "Florida Resident Cited for Ham Interference"
radioworld.com/article/florida-resident-cited-for-ham-interference/219088

"Great technical information and entertainment all in one interview. What more could you ask for?"

— on "Mod Monitors Special Report: Peterle"
radioworld.com/article/mod-monitors-special-report-peterle-/218926

"So, in the government triple speak, did EAS work properly, and in what is accepted as a normal way, during this crisis? Cell is important, but far from the only issue. Did radio work it? Did it work for radio? Did listeners get the proper instruction?"

— on "Report: Boston Did Use Wireless Alerts"
radioworld.com/article/report-boston-did-use-wireless-alerts/219096

"Corporate-owned AMs may be able to afford this proposal, but small-town, locally owned stations could be bankrupted by having to build all-new facilities. If this proposal is carried out, it will be the last gasp for most locally owned AM radio stations. If that's what you want, fine. But then quit calling radio 'local.'"

"If you're going to move radio in to the TV 5 and 6 band, you're going to have to wait decades for people to buy enough new radios to receive it, and you're still talking about 'old fashioned analog' (not a good selling point nowadays). There are millions of receivers already in people's homes that can receive those channels ... they are called 'digital TV sets.' Use them."

— on "AM Revitalization? Clay's Dramatic Suggestion"
radioworld.com/article/am-revitalization-clays-dramatic-suggestion/218964

"Power companies should run fiber optics along their power line rights of way. There is no need to pollute the spectrum with noise."

— on "FCC Rules Against Hams in BPL Decision"
radioworld.com/article/fcc-rules-against-hams-in-bpl-decision/219026

"Commercial AM remains very healthy in many big markets and so retiring the band or converting it to all-digital is far too drastic. The issue remains that the iBiquity solution for AM in its present form is not the best method to bring the AM band into the digital era."

— on "AM Analog Sunset Debated"
radioworld.com/article/am-analog-sunset-debated-/218867

"Use XM (not Sirius) Satellites as a PEP for EAN and NOAA Weather Radio for the local level alert as NWR has a tremendous population reach; CAP and IPAWS aren't even needed. KISS. Keep it simple."

— on "CAP EAS Is Challenged, But Not Stalled"
radioworld.com/article/cap-eas-is-challenged-but-not-stalled/219143

"Wow! Thanks for the great heads-up, Aaron. I didn't know this product existed. I saved their PDF for future reference."

— on "The Atomic Option"
radioworld.com/article/the-atomic-option/219094

Image courtesy nist.gov

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World Radio History

OPINION

Why So Down on Millennials?

Broadcast's next generation is helped, not hurt, by new tech savvy

COMMENTARY

BY DAVE BLACK

Most, if not all, of us have been to conferences, workshops and seminars where the topic of "millennials" (those born between 1983 and 2010) has been addressed at great length, generally by way of a lecture of some sort, with PowerPoint slides citing data indicating that today's generation of college students is the laziest, least motivated, least socialized and most self-involved generation the Earth has ever seen.

My experience with the current generation of undergraduate college students is quite different, however.

I'm telling you that there is great hope going forward. Here are the reasons I think we can be optimistic in broadcast, as we face mass retirements of baby boomers and an influx of millennials now and over the next two decades or so.

The technology in the home today removes a barrier between the imagination and the creation of media.

When I was a kid (I am a Boomer), my brother and I would play "Huntley and Brinkley" by drawing the NBC logo on the blank bottom of the box of some game we had received the previous Christmas. We set up simulated microphones, banged out scripts on the two-ton trusty old Royal typewriter my parents had purchased in 1946 or so.

Using the Columbus method of typing (discover a key and land on it), we would put "news" to paper and let our imagination do the rest.

As treasured as those memories are, contrast that with what students today can do, with miniature HD video cameras in their personal cell phones, complete with high-tech mic and digital storage. Desktop computers, laptops and tablets are easily loaded with sophisticated, yet easy-to-use, editing programs. We've got YouTube and other platforms upon which to load the finished product for fun and feedback.

There are fewer barriers for today's generation of students. They are at the time of life in which learning is most efficient, easiest and most likely to take place. They are entering the market at a time when high-priced talent is exiting and at a time in our country when economics dictate bringing on low-priced talent (e.g., young, inexperienced people).

A GENERATION OF SELF-STARTERS

For all of us in this "bottom line" business of broadcast media, here is the bottom line: Students today are much more technologically savvy than we were at their age, and more importantly, they're more sure of themselves and their ability to succeed in the broadcast world (by and large) than previous generations.

Dave Black

This will translate into (and we are seeing this already in our graduates) hard-working, capable, entry-level broadcasters, sales people and leaders who maintain their enthusiasm beyond the first couple of weeks on the job.

This fear I hear expressed so often by professionals in a position to hire new talent is that the concepts of "sharing," "team" and "selflessness" are foreign to millennials.

The answer to this fear, which I would like you to consider, is two-fold:

1) Broadcast media personnel are constantly changing stations, ownership and leadership. It is a business made for professionals who are loyal to the business and the employer, but not necessarily to the point of being a "team" in the same sense as a church or surgical unit at a hospital or school administration or you fill in the blank.
2) The commercial (and even noncommercial) stations I worked for in the 1980s and '90s worked best when we were doing our jobs independently, with strong deadlines and little handholding.

"Self-starters" is the way I see it phrased in the classified ads. I don't think that has changed much, and I would argue that the generation of students we are seeing now are much more suited to that approach than Gen-X or baby boomers.

As far as any data I can provide, it is anecdotal and qualitative:

I have an unbelievably strong class of juniors who have been running our station for about a year. They meet once a week to share what they are doing, to get some feedback from their student station manager and me, and then they continue on a path of accomplishment that we set for them individually at the beginning of the semester.

We had our most productive summer ever last year.

Two freshmen, who are likely to become station leaders in their sophomore year and beyond, have already set an ambitious (but eminently doable) blueprint for success in their broadcast area (sports and general programming).

What I am struck by most is that there seems, generally, to be less anxiety about creating a plan and executing it than we have seen here at WSUM(FM) in the last 15 years or so.

Keep in mind that we are almost always dealing with incredibly smart overachievers. This generation of "DIY" (do it yourself) students seem to not see barriers to accomplishing great things in the broadcast world. It all seems possible to them, rather than "pie in the sky." That alone is worth taking a chance on.

One caution to share with you would be that young people generally tend to respond to criticism better if it is delivered calmly with plenty of specifics. I suppose we are all that way. We try to practice the methods of Stephen Covey (author of "The Seven Habits of Highly Effective People") and the "strengths" movement (based on Gallup data) in coaching the students to success.

Ultimately, though, it comes down to the quality of the person, and I see very high-quality people here; perhaps the highest quality college student there has been in the world. (Two of our best May 2012 graduates are plying their trade at WXOW and WKBT television stations in LaCrosse, Wis.).

That's a prospect that will surely cheer any broadcast owner/general manager's heart.

It's also a testament that we can count on these millennials to keep our business moving forward and upward into the 21st century and to strongly influence the succeeding generations in a very positive way.

Dave Black is co-founder and general manager of WSUM(FM), which is located on the University of Wisconsin-Madison campus.

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World Radio History

1664: Just what it looks like. Two tin cups and a string. But it transmitted sound!

1876: Alexander Graham Bell's commercially viable telephone.

1900: Phones become fixtures in more well-to-do and steam-punk homes.

1920: Every home is working toward having a telephone!

1936: The advent of the dial desk phone. No more asking the operator to connect you.

1963: Push buttons usher in the thoroughly-modern world. Touch tones enter pop culture.

1983: The mobile phone is a reality. Plots in all TV shows get a boost!

2004: IP Telephones begin to become the staple of modern business.

2007: Smartphones are complete communications centers. AND they can sound great!

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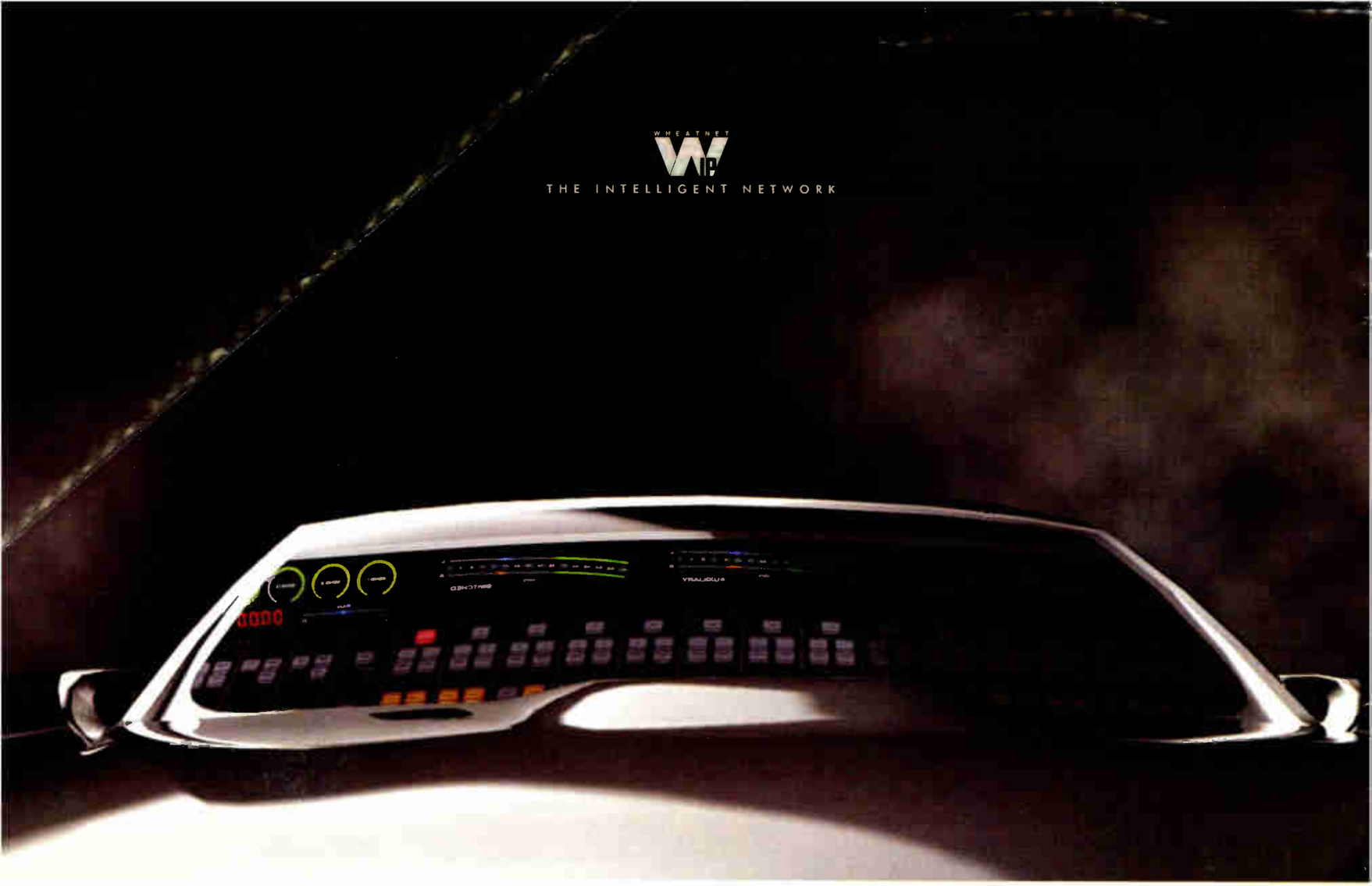

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