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iStockphoto/Carrie Wendel

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adioDNS thinks you should give Hybrid adio a closer look. — Page 36

CAP EAS Is Challenged, But Not Stalled

So say broadcasters, though some emergency managers cite slow adoption by certain states

Photo by Leslie Stinson

FEMA has invited developers, alert originators and broadcasters to use its IPAWS Laboratory for testing purposes. The lab is at the Joint Interoperability Test Command in Indian Head, Md.

BY RANDY J. STINE

WASHINGTON — The adoption of Common Alerting Protocol standards for EAS is facing challenges but it is not stalled, according to industry participants. However, some of those experts also say technology is moving far faster than the overall EAS ecosystem can react.

FEMA officials continue their push to get more local emergency managers authorized to send CAP messages as part of the Integrated Public Alert & Warning System, or IPAWS, by promoting education, training and coordination among EAS stakeholders. But the EAS community is still shaking off public ridicule after the "zombie" hacking incidents in February.

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Foti Lives for Audio to the Fullest Extent

Telos Alliance CEO is honored with NAB Engineering Achievement Award

NEWSMAKER

BY RANDY J. STINE

Frank Foti

CLEVELAND — It's as if Frank Foti lives by one rule: Your ears shall experience audio to the fullest extent of the law of physics.

His ears and his knowledge of algorithms have served the founder of Omnia Audio well through a career highlighted by breakthroughs in audio processing.

NAB called Foti a "mostly self-taught" radio engineer. Foti's technological highlights include being the first to apply look-ahead limiting in multiple bands to audio processing, integrating standard FM and HD Radio processing within a single processor and developing composite filtering, which made it possible to run FM subcarriers with aggressive composite audio processing, according to colleagues.

In addition, the prolific Foti almost

(continued on page 8)

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World Radio History

EAS

(continued from page 1)

Bogus alerts aired on television stations in three states and at least one FM radio station in Los Angeles, according to several sources. The attack immediately prompted security concerns from some warning professionals worried that the Internet component sacrifices EAS security for the sake of technology.

EAS observers believe an individual or group hacked the TV stations' EAS encoders/decoders by taking advantage of those with weak Internet firewalls and factory default passwords. The fake alerts, which warned of zombies "rising from their graves and attacking the living," made it to air in at least three cases.

FCC officials cautioned broadcasters to change default passwords for their EAS decoders and ensure that their IP networks are firewall-protected, also with strong passwords. The commission and the FBI continue to investigate the hacking, according to a variety of sources.

Warning experts theorize that those responsible were familiar with the technical infrastructure of broadcast EAS and how it works. A spokesman for Northern Michigan University in Marquette, Mich., licensee of WNMU(TV), told several media outlets that the attacks on the school's station was traced to an overseas source by the school's forensics information technology staff.

More broadly, the "buzz" in public alerting right now focuses on social media and smartphones, which quickly are gaining acceptance as public warning expands across multiple delivery platforms, according to one EAS expert.

A local emergency manager told Radio World that in an emergency, "I'd contact local media, send a message through Facebook and Twitter and use our own local emergency notification system long before I start working on the EAS alert."

Smartphones — and their connectivity to Twitter and Facebook — are gaining favor with some longtime EAS advocates. In some cases, emergency managers and public alerting professionals are embracing local emergency notification systems that use landlines and cellphones as a preferred means to local alerting. Some of these systems are not tied into EAS in any way.

Photo by Leslie Stimson

Using the lab remotely or onsite, alert originators and broadcasters can see how an alert displays on a variety of devices.

'MORE IS BETTER'

U.S. wireless carriers continue to roll out the Wireless Emergency Alerts service, formerly called the Commercial Mobile Alert System. It complements the Emergency Alert System, according to FEMA.

WEA allows public safety authorities to use FEMA's IPAWS Open Platform for Emergency Networks to send geographically targeted, text-like emergency alerts to the public. They relay presidential, Amber and "imminent threat" alerts to mobile phones, according to FEMA, which expects the majority of the alerts will come from NOAA's National Weather Service.

The WEA text service is limited to 90 characters, which some observers feel could compromise WEA's potential for public alerting, given that a phrase like "tune to local media" might occupy part of each message.

Nevertheless, some in the EAS community are accepting of the technology.

"There are several reasons why many of us in the EAS business have a favorable view of wireless text alerts on cellphones," said Adrienne Abbott, Nevada EAS chair. "It's a case of 'more is better.' When there's an EAS activation, the wireless text alert adds to the credibility of the EAS message."

Abbott said that in an emergency, more information is always desirable. It can only help if people hear a warning on their radio or TV and then get a text message with the same warning on their cellphone and even from a telephone notification system such as Reverse 911.

"Radio and TV do a good job of getting warning messages to the public, but a wireless text alert can reach people, like those in many workplaces, who aren't listening to a radio or watching TV, or who have cut the cord and no longer have a traditional landline telephone," Abbott said.

FEMA IPAWS EAS Test Program Manager Manny Centeno, speaking during a webinar in March, said "broadcast remains the backbone" for EAS, although the government agency supports WEA.

FEMA continues to push for local emergency managers and alert initiators to sign up for IPAWS, Centeno said, adding that the organization stresses best practices to emergency managers.

"We don't have a lot of them using it just yet," he said during the webinar. "We are projecting some education to guide them to bridge the gap between

(continued on page 5)

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World Radio History

'No One Has Figured It Out'

Analyst Roger Lanctot says radio has the chance to help redefine the user experience

Frightened by changes in the car dashboard? Lots of radio people are. Roger Lanctot has some words of comfort: "It's early days. No one has figured it out."

He works for Strategy Analytics. He's an automotive technology analyst who spends much of his time talking about infotainment products, operating systems, user interfaces and telematics — the "fizz" stuff that nowadays is such an important part of car buying.

So he keeps an eye on products and companies like OnStar, Sirius XM, iHeartRadio, Aha and TuneIn; and he thinks about the evolution of the "center stack" in the car. I called him for perspective on the question of radio's future in that environment.

Roger Lanctot

HOPING FOR PAYOFF

Lanctot readily grants that these are painful times for U.S. radio business people.

"You're investing in HD and crossing your fingers on the payoff. You're investing in streaming your content, and that's costing you a fortune, with an unclear payoff down the road. You're having to pay attention to all these mobile platforms and operating systems, and everyone's telling you that mobile advertising is going to be a big deal, but it's not right now."

But he tells radio that there is power in being the incumbent. While new entrants scrabble to figure out a dashboard business model, radio already is there, with a strong presence in minds of "strapped in" listeners. Radio is free. And consumers continue to expect it in their cars, at least for now.

Also, streamed content may be attractive but it costs a lot to deliver; that reality won't go away soon. And Lanctot is encouraged by developments on the wireless carrier side: "I've seen the 'green shoots' of FM on handsets; and the fact that this is happening at all is significant." FM in phones is an issue that crosses into automotive, since smartphones so often are the portal to Internet listening there.

Don't worry about Pandora. Improve access to your own content on these emerging platforms.

– Roger Lanctot

Lanctot reminds traditional broadcasters of a core strength: their local infrastructure.

"The mobile advertising experience is in its earliest stages. What they're trying to enable is a location-based experience, [but] radio has always *been* a location-based experience." So while satellite and Pandora try to succeed with monolithic national content, stations with local towers enjoy an advantage by providing localized content.

Notably, he adds, user interfaces on emerging technologies arrive with their own challenges. They are new and confusing; they are dependent on wireless connections that may or may not work.

"There's a little bit of disarray and fragmentation on the IP side," Lanctot said.

'FRAGMENTED MESS'

This question of the "user experience" is important; broadcasters who want to thrive in the automobile need to understand the interface discussion.

Radio, Lanctot says, was always easy to use. Everyone understood a radio dial. "But we're moving into a world of electronic programming guides, like those on the TV. What was normally associated with a 'lean back' experience is coming to the 'lean forward' driving experience."

FROM THE EDITOR

Paul McLane

What will that interface look like, ultimately? How will content providers control, contribute or promote certain activities? Should they deliver via IP or regular broadcast signals? Should a broadcaster partner with an organization like Aha or TuneIn or iHeartRadio? Or should stations stand alone? If they choose that path, how will they be discovered? If they work with a partner, how can they be discovered?

"We're just beginning to leave the shore for the different ways of delivering that broadcast signal," Lanctot said. But broadcasters do have a voice in shaping the outcome.

Technology suppliers are working to standardize how consumers find content; for instance Lanctot senses that HD Radio developer iBiquity Digital is pushing to standardize how multicast stations appear on platforms like Cadillac Cue. Watch, too, for more emphasis on "contextual advertising" — ads that consumers opt into and which are relevant to them.

But radio must understand the new layers of interaction that drivers are having with content via electronic program guides such as on TuneIn.

"We're just beginning to think about 'searching for things on the radio,' whether it's regular or IP content," he said. Solutions like Stitcher and Aha provide for a search engine or front end to find localized information or a particular song or artist. Control of such offerings may be via touchscreen, steering wheel controls, someday maybe heads up display. "It's almost a content management experience for broadcast content."

Radio must think not just about linear delivery of a broadcast stream but about how it will appear on these services, and how to flag content so it can be tapped in a non-linear way, including access to podcasts and time-shifted content.

By some arguments there's no need for a radio in the car (Lanctot's son told

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World Radio History

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Photo by Jim Peck

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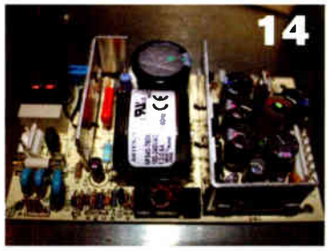

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EAS

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broadcasters, cable operators and the local emergency managers. You have to remember that [IPAWS] is brand-new and people are unfamiliar with it."

But Centeno acknowledged some reluctance by emergency managers to use CAP EAS when they are not trained properly. "You can't wait to figure this out when you are experiencing an emergency. The disseminators have to construct solid messages."

LEADERSHIP, FUNDING

The CAP EAS Working Group of the FCC's Communications Security, Reliability and Interoperability Council made its final report to the commission in March. The group identified a need for best practices to guide emergency managers and the system development community in the process of CAP EAS message origination.

Sgt. Robert Ott, emergency manager of Ingham County in Michigan, says leadership and funding for training for IPAWS and CAP EAS has been lacking.

"FCC and FEMA are going to have to push CAP EAS out more aggressively. We are one of only a half-dozen counties that has been approved as IPAWS users in the state of Michigan. That isn't many," Ott said.

"I don't really get all the technical stuff. They seem to have an acronym for everything. What we need [at the local level] is simplification."

Ingham County uses the Code Red community notification system, a product of Emergency Communications Network. It uses Reverse 911 and cellphone alerts to communicate local emergencies. Reverse 911 uses a database of telephone numbers and addresses to deliver a recorded emergency notification.

Meanwhile, the CAP rollout is "not going well" in Illinois, said Wayne Miller, chairman of the Illinois SECC.

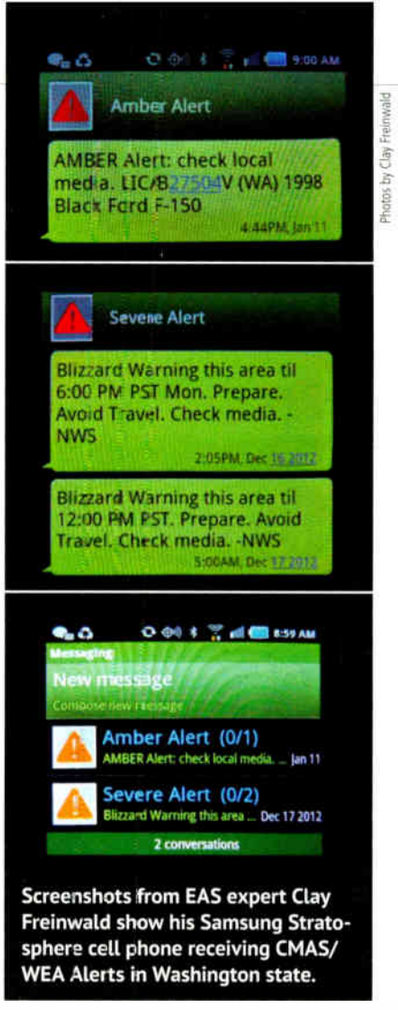
"The state has not shown much interest in working with FEMA to develop a CAP server system in Illinois. Without a central server, local managers have nothing to embrace," Miller said. "And since there is nothing new operationally, the state EAS plan has not been revised or updated."

FEMA and FCC officials declined to comment for this story.

The FCC is encouraging State Emergency Communications Committees to review their state plans to ensure they are up to date, particularly regarding monitoring assignments and handling of CAP/IPAWS, and to make amendments if necessary, according to earlier comments from commission officials.

Jim Skinner, Nebraska SECC chair, said some local emergency managers in that state are "very on board with implementing CAP messages to IPAWS" even though only one county in that state has been authorized to use it.

"There are clear challenges for CAP on IPAWS. The size of all the National Weather Service data is too overwhelming to use IPAWS for weather EAS right now. Fortunately the WEA filtering seems to reduce it to a manageable amount of data for cellphone alert. We have had a few WEA weather alerts in Nebraska that worked well," Skinner said.



Photos by Clay Freinwald

Screenshots from EAS expert Clay Freinwald show his Samsung Stratosphere cell phone receiving CMAS/WEA Alerts in Washington state.

SATELLITE DELIVERY

Meanwhile, Centeno confirmed during the FEMA webinar that the government agency's buildout of Primary Entry Point stations will conclude soon. The majority of the PEP stations now have satellite systems to downlink alerts from FEMA, he said.

"The final phase of deployment and testing is underway. It should be operational by the middle of this year," Centeno said.

FEMA's satellite delivery network will send audio from FEMA to the approximately 74 PEP stations nationwide. Satellite delivery is expected to improve audio quality of messages, Centeno said during the webinar.

Poor audio quality was a major concern after the first national test of the

(continued on page 8)

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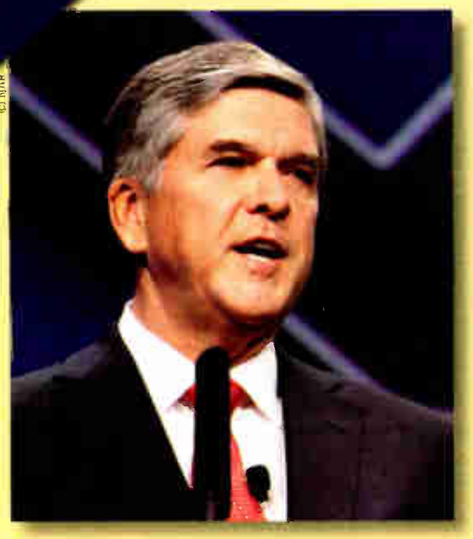

NAB President/CEO Gordon Smith said radio and TV are as relevant as ever, if not more so. But he cautioned that radio can't take its place in the dashboard for granted, and urged the industry to continue 'incentivizing our friends in the wireless industry about the benefits of voluntarily providing their customers with the instant emergency information broadcasters provide.'

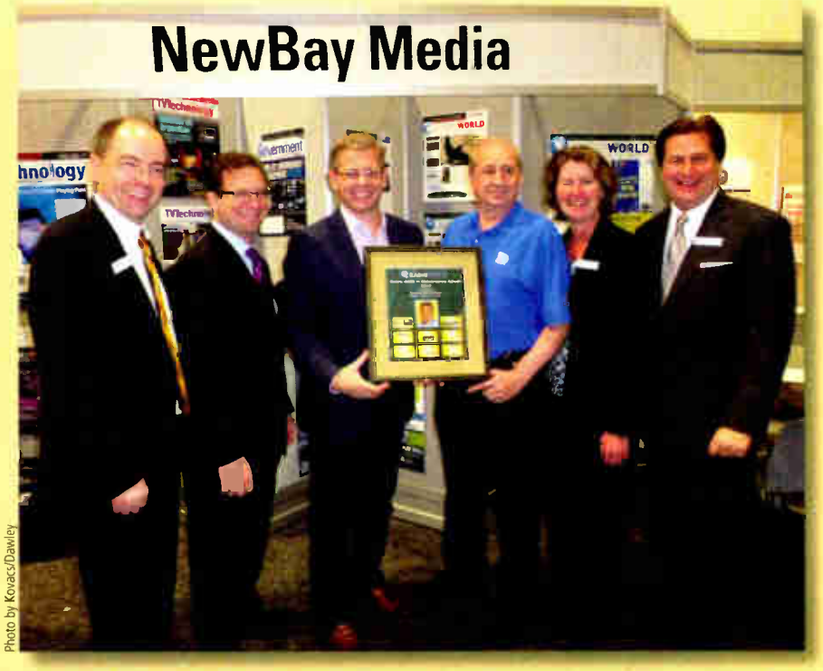

Photo by Kovacs/Dawley

Paul Brenner receives a plaque from Radio World after having been named to receive the publication's Excellence in Engineering Award in December. Brenner is senior vice president and chief technology officer for Emmis Communications and president of the Broadcaster Traffic Consortium. From left: RW Editor in Chief Paul McLane; iBiquity Digital SVP of Broadcast Programs and Services Joseph D'Angelo; Paul Brenner; Assistant VP/Director of Broadcast Communications John Lyons of the Durst Organization, representing past recipients; NewBay Media EVP Carmel King; and Radio World Publisher John Casey.

Photo by Kovacs/Dawley

Gary Kline of Cumulus, holding folder, and Dave Roberts of Stagetec talk with Glensound's Gavin Davis about the Broadcasters' Mobile Phone With Glensound HD Voice.

Photo by Jim Peck

Digital PowerRadio says its receiver chip technology can help improve HD Radio; iBiquity has said it won't. Inventor Brana Vojcic of DPR is shown at the Broadcast Engineering Conference.

© NAB

Face painting in Cirque de l'Absurde, an outdoor party sponsored by Fusion-io.

MORE ON PAGE 16

World Radio History

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

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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.

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World Radio History

FOTI

(continued from page 1)

singlehandedly has pushed the concept of FM stereo single sideband suppressed carrier, or SSBSC, into broadcasters' consciences. Describing him, colleagues use words like driven, assertive, colorful and upbeat.

Foti, 57, was honored with the 2013 NAB Radio Engineering Achievement Award in Las Vegas. The award recognizes people who have made significant contributions to broadcast engineering. Jay Adrick of Harris was chosen for the TV Engineering Achievement Award.

Audio processing is what Foti has spent decades doing — the NAB mentioned his "tireless evangelism toward the general improvement of broadcast audio quality" — but his horizons are broader now. In early 2012, he assumed the reins as chief executive officer of parent company the Telos Alliance. Former CEO Steve Church was ailing at the time, and died about five months later.

MOBILE CONNECTIVITY

Foti has since immersed himself in the workings of the group's five product divisions — Telos Systems, Axia Audio, Linear Acoustic and the recently acquired 25-Seven Systems, as well as Omnia — to position the company for what he calls the future of mobile connectivity.

"On a daily basis, we are looking at ways to get signal from this point to that point, which transmission systems need to be coordinated and what will the future of the vehicle be like when people listen to audio, TV or movies," Foti said.

"There are so many innovative ways coming in which music and entertainment will be delivered in a mobile environment. That is the place we need to be, and audio processing figures prominently into all of that."

Foti's engineering career began at a small radio station in Willoughby, Ohio, in 1975. WELW(AM) served as the gateway to bigger opportunities in his hometown of Cleveland. Foti soon joined Malrite Communications' WMMS(FM) and WHK(AM), and was mentored by Chief Engineer Jim Somich.

"He told me later that he didn't hire me because of my experience, but my drive, energy and willingness to learn was off the charts," Foti said.

Photo by Jim Peck

Telos Alliance CEO Frank Foti, shown at the NAB Show, thanked several people, including his grandfather, father and his late business partner Steve Church.

Somich emphasized the on-air sound at the two stations, which were both top-rated in the city. "Jim wanted WMMS to stand out on the dial through something called audio processing. That hit home for me. Together, we studied it, researched it, modified it and tweaked it," Foti said. "We home-brewed a lot of things. It was like going to engineering college with a major in audio processing. Plus, I learned electronics along the way."

Foti then took his custom audio processing presets to KSAN(FM) and KNEW(AM) in San Francisco before heading to WHTZ(FM) in New York as chief engineer. He moved to WHTZ about two weeks prior to its famous format change in August of 1983. He and PD Scott Shannon were probably most responsible for its sound and personality, observers said.

'GONNA KICK ASS'

"There was an energy level that I loved about the radio station life, especially at Z100. I knew that Z100 was gonna kick ass. The vibe was that of a winner. We went from worst to first in 74 days. It was a lot of fun," Foti said.

His audio processing accomplishments at WHTZ from 1983 to 1987 led him to shift to full-time manufacturing with the founding of Cutting Edge Technologies in 1988. In an interview about 12 years later in Radio World, he said its first product was the Vigilante.

"The first piece I started modifying was the Aphex Model 700. I was building Vigilantes in my apartment, by myself. Drill pressing everything to re-do the front panels," he said at the time.

The first commercial audio processor built from scratch at Cutting Edge was the analog Unity 2000.

Noting his application of look-ahead limiting in multiple bands, a company press release said Foti accomplished this in part by placing pre-emphasis after the limiters in his digital broadcast audio processor.

Foti, familiar to industry conference attendees for the numerous papers he has delivered, joined forces with Steve Church at Telos Systems in 1992 and became minority owner of the new entity. There he launched the Omnia.fm, his first digital processor.

"I remember Steve [Church] and I listening to the first generation of DSP-

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EAS

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EAS system in November 2011. This was emphasized further in a report about the national EAS test issued in April by the FCC's Public Safety & Homeland Security Bureau.

The report found that some areas had no Primary Entry Point station to provide a direct connection to FEMA, while other stations could receive but not re-transmit the test.

The feds also noted that some EAS gear couldn't handle the short test, which was truncated from some two minutes to just 30 seconds before the November 2011 event.

FCC Public Safety & Homeland Security Bureau Chief David Turetsky told lawmakers recently the satellite feed from FEMA to PEP stations will be used to back up the Public Switched Telephone Network-based connection.

"The openness of the Internet also makes it more vulnerable to certain types of exploits, and specific areas of risk exist in Internet routing," Turetsky noted in testimony before a House subcommittee hearing on alerting in March.

In the report, the Public Safety & Homeland Security Bureau emphasized that there will be another national EAS test, but first it recommends a rulemaking to review equipment performance during EAN activation; seeking public input on proposed changes, if any, to EAS equipment rules; and encouraging states to review and update their EAS plans, especially regarding monitoring assignments. FCC officials have said the test revealed that many stations didn't know which facilities in their markets to monitor to receive the alert.

EAS equipment manufacturers are watching industry developments, including the zombie hack incident, and seem optimistic that broadcaster investment in CAP equipment will not be lost. Broadcasters were required to have Common Alerting Protocol-compliant EAS equipment in place in June 2012.

"Reports indicate the CAP weekly tests from FEMA have become reliable," said Sage Alerting Systems President Harold Price. The CAP/EAS community, he said, "is working out all the kinks" in getting units to poll the Internet for alerts properly.

The next big challenge on the horizon is when the National Weather Service begins sending weather alerts through the public IPAWS server and out to stations, according to Price.

"Once their final format is in the place, CAP EAS vendors may need to put some text-to-speech tuning in place to better handle the NWS text format. I don't think we'll see NWS alerts on CAP for a few more months," Price said.

TFT Senior Vice President Darryl Parker said live streaming of event codes present some issues.

"FEMA, moving away from a telephone conference bridge arrangement to deliver 'live' audio to PEP stations, is now in the process of a satellite delivery system to connect PEP stations. For the legacy EAS, 'live' audio from PEP stations propagated through the web structure of EAS RF monitoring assignments presents no problem," Parker said. "However, for 'live' audio to be streamed as part of a CAP-delivered EAS message, there are several problems."

The CSRIC CAP EAS Working Group report mentioned a need for further development of a CAP EAN streaming audio capability.

The concern is the Internet bandwidth required by a server, or network of servers, to connect thousands of EAS participants simultaneously, Parker said.

"This can certainly be done, but funding is a paramount obstacle," he said.

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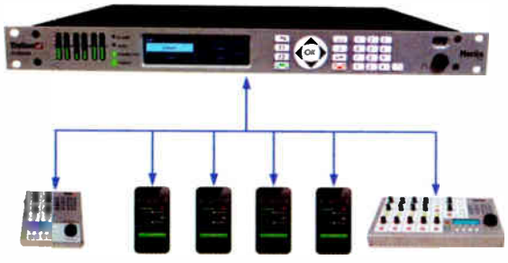

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World Radio History

FOTI

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based broadcast processors, and realizing we could make a difference. A big difference," Foti said. "So I went into hibernation, and along with some ideas collaborated on with Steve, we created the first DSP-based hard-limiter [clipper] that didn't alias." Aliasing distortion is an additional distortion within a digital system, he said, that can occur when signal content exceeds the Nyquist frequency of the system and reflects itself back down into the useable passband or range of the system.

The audio processing wars that ensued, particularly between Foti and his direct competitor Orban, did a lot to drive innovation through the years.

"In any good competitive environment, both sides are pushing each other. Bob Orban might see it differently, but if not for Omnia.fm, I'll bet some of those new features that came out in later Optimods probably would not have happened," he said. In fact, in receiving the NAB award Foti is following in the footsteps of Bob Orban, who was similarly honored in 1995.

The list of accomplishments for the Wickliffe, Ohio, High School graduate continued to grow. Foti is credited with inventing the non-aliasing DSP limiter and the low IMD limiter, and developing composite filtering, according to the Telos Alliance.

STILL LEARNING

Foti once wore his hair long and could have been mistaken for a roadie for The Who. If he is a bit more corporate now, he remains a flamboyant, outsized personality. Throughout, he has exhibited a highly competitive nature. Known for being hands-on when it came to installing Omnia processors at stations, he now tweaks and tunes the business structure at the Telos Alliance.

In that seat for just over a year, he hasn't been surprised by much.

(continued on page 12)

CHARLES, ADRICK HONORED

Photo by Jim Peck

Leonard Charles

The NAB reserves its Service to Broadcast Engineering Award for individuals who have provided extraordinary service to the industry but may not have been broadly recognized. This year it honored Leonard Charles.

The director of engineering, Midwest, for Morgan Murphy Media is active in the Wisconsin Broadcasters Association and is a former board member of the Society of Broadcast Engineers. In addition, Charles has served on the FCC National Advisory Committee and the FCC Communications Security Reliability and Interoperability Council.

He further has been involved in EAS matters both nationally and locally, and has helped educate broadcasters about EAS compliance.

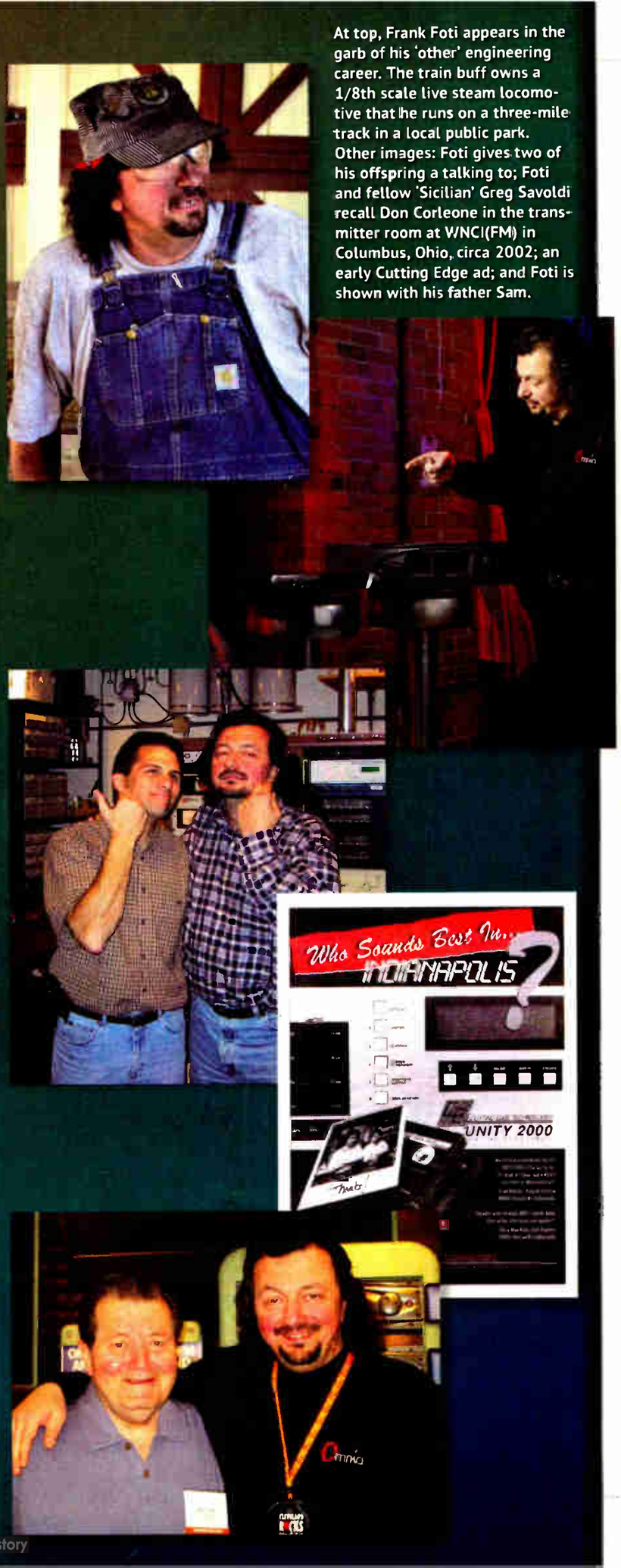
Jay Adrick

Jay Adrick, recipient of NAB's TV Engineering Achievement Award this year, was vice president, Broadcast Technology in the CTO Group of Harris Corp. Adrick, who retired from the company at the end of January, remains a consultant to Harris Broadcast for television and ATSC-related issues. Adrick had been with Harris since 1996 and was previously a professor of Broadcast Communications and director of Radio and TV at Xavier University, according to NAB.

Adrick made contributions toward the conversion to digital television, dating back to the early 1990s, and to the Harris/PBS DTV Express mobile demonstration system. His career has been marked by strong design and project leadership skills, coupled with strategic vision and formidable educational abilities.

Beyond his many product design and development achievements at Harris, according to NAB, Adrick has led technical teams on major broadcast system implementations around the world and has participated in countless SBE, SMPTE and NAB educational efforts.

He also served in the U.S. Navy and began his career as an engineer and design consultant at several radio and TV stations in the Akron and Cincinnati markets.



At top, Frank Foti appears in the garb of his 'other' engineering career. The train buff owns a 1/8th scale live steam locomotive that he runs on a three-mile track in a local public park. Other images: Foti gives two of his offspring a talking to; Foti and fellow 'Sicilian' Greg Savoldi recall Don Corleone in the transmitter room at WNCI(FM) in Columbus, Ohio, circa 2002; an early Cutting Edge ad; and Foti is shown with his father Sam.

World Radio History

Congratulations, Frank!

2013 NAB Radio Engineering Achievement Award Recipient

Frank Foti
CEO, The Telos Alliance

May you continue to make a significant contribution in advancing the state of the art of broadcast engineering.

BROADCAST BIONICS

A long-time customer, then a supplier, and always a friend.
You are an engineer extraordinaire.

BGS

broadcast gear from people you trust

BSW
BROADCAST SUPPLY WORLDWIDE

Congratulations Frank. Broadcasting sounds better thanks to your ears, ambition, dedication and technical innovation.

Frank, congratulations to a leader who truly makes radio stand out!

CUMULUS

ENCO

Congratulations Frank from everyone at ENCO for being on the Cutting Edge of audio processing technology for the past 40 years. This award is well deserved.

nautel

Congratulations to our good friend Il Padrino, well deserved!

RADIOWORLD

Frank, your work has been effortlessly loud and crystal-clear ... an offer radio "couldn't refuse." Well done.

THE TELOS ALLIANCE™

Telos® Omnia® 25 seven™ AXIA® LINEAR ACOUSTIC®

Congratulations Il Padrino from your crew at The Telos Alliance!

World Radio History

FOTI

(continued from page 10)

"Even though Steve was the CEO, we were always very in touch with each other in terms of running the business. Whether it was a tech advancement or expansion, he always called me and we did these thought exercises."

What is most interesting for Foti is the level of dynamics that go on throughout the course of the daily life of the company.

All five divisions, he said, "have a life of their own, really. They each need nurturing and need care and love. Then it might need a kick in the pants, too. But the Alliance is bigger than any one person; it's wasn't about Steve then and it's not about me now," he said.

Foti enjoys interaction with people who have an eye to the future "on a broader scale," even though he no longer spends all of his time locked to the engineering bench doing digital audio signal processing.

"I still have time to do some of that. Steve always said, 'We should be paid for what we do best.' But we have some very talented digital audio processing programmers to do that work now."

In fact, the day-to-day business of Omnia, which makes processors for FM, AM, HD, Internet streaming and production, is led by Cornelius Gould, co-developer of the Omnia.11.

"I'm learning a lot since," Foti continued. "I don't necessarily come from a background steeped in business experience. I enjoy reading about Tom Edison and Walt Disney and learning how those guys pushed the bar. They saw a vision and went for it. We want to be that way, while remaining fiscally responsible, and more importantly taking care of the customer."

Business for the Telos Alliance is good, Foti said, as the economy rebounds from the recession.

"We have been fortunate that the companies have recovered financially the past two years. We have exceeded sales projections and sales have been going up. I know that hasn't been common for everyone."

When the economy tightened, he said, the company controlled expenses but didn't cut people. "We sort of went into hibernation, but we still developed new products across all of our brands. So when things improved we had product in the pipeline, and we were able to maintain sales of legacy items along the way."

Foti points to international markets, including India, China, Australia, South America and parts of Europe, as being strong for the Telos Alliance.

Meanwhile, he has been in full assault mode in educating the broadcast industry on what he sees as the benefits of SSBSC transmission, an alternative to double sideband suppressed carrier systems.

SSBSC is modulation of the stereophonic subcarrier in the FM multiplex baseband signal that reduces multipath of the FM channel through a reduction in occupied bandwidth of the modulated carrier, according to the white paper authored by Foti.

"I certainly didn't come up with the concept of single sideband for FM, but dug up some papers and did further research on implementing it. It's compatible with existing FM receivers. [SSBSC] eliminates the multipath so HD Radios don't have to go into blend as often because the radio senses less multipath," he said.

Omnia implemented a SSBSC option for the stereo generator function employed in the Omnia.11 FM audio processor. Foti said a number of FM stations in the United States are using SSBSC technology with FCC experimental authorization.

Foti lives with his wife Anna Cortes and her 14-year-old daughter in Lakewood, Ohio. He is active in the Lakeshore Live Steamers, a group dedicated to small gauge steam engines and locomotives. You can find him April through November tooling around on his 750-pound steam engine on a track at a county park near Kirtland. Foti also owns a large HO scale model train collection.

HONOR ROLL

Past winners of the NAB Engineering Achievement Award are listed. Beginning in 1991, radio and TV winners were named; radio winners are shown.

1959 John T. Wilner
1960 T.A.M. Craven
1961 Raymond F. Guy
1962 Ralph N. Harmon
1963 Dr. George R. Town
1964 John H. DeWitt Jr
1965 Edward W. Allen Jr.
1966 Carl J. Meyers
1967 Robert M. Morris
1968 Howard A. Chinn
1969 Jarrett L. Hathaway

1970 Philip Whitney
1971 Benjamin Wolfe
1972 John M. Sherman
1973 A. James Ebel.
1974 Joseph B. Epperson
1975 John D. Silva
1976 Dr. Frank G. Kear
1977 Daniel H. Smith
1978 John A. Moseley
1979 Robert W. Flanders

1980 James D. Parker
1981 Wallace E. Johnson
1982 Julius Barnathan
1983 Joseph Flaherty
1984 Otis S. Freeman
1985 Carl E. Smith
1986 Dr. George Brown
1987 Renville H. McMann
1988 Jules Cohen
1989 William Connolly

1990 Hilmer Swanson
1991 George Marti
1992 Edward Edison
& Robert L. Hammett
1993 Robert M. Silliman
1994 Charles T. Morgan
1995 Robert Orban
1996 Ogden Prestholdt
1997 George Jacobs
1998 John Battison
1999 Geoffrey Mendenhall

2000 Michael Dorrough
2001 Arno Meyer
2002 Paul Schafer
2003 John W. Reiser
2004 E. Glynn Walden
2005 Milford Smith
2006 Benjamin Dawson
& Ronald Rackley
2007 Louis A. King
2008 Thomas B. Silliman
2009 Jack Sellmeyer

2010 Steve Church
2011 L. Robert du Treil
2012 Paul Brenner
2013 Frank Foti

NEWSROUNDUP

ARBITRON: Stockholders of the ratings firm approved its acquisition by Nielsen Holdings. Almost 99 percent of the shares voted in favor of the deal, representing about 77 percent of total outstanding shares of Arbitron common stock. The companies agreed in December that Nielsen would acquire Arbitron for $48 per share in cash; they estimate the value of the deal at $1.2 billion. But this was not the final hurdle for the transaction. In March, the Federal Trade Commission asked both companies for more information as part of its review process.

CHAIRMAN: Julius Genachowski plans to become a fellow at the Aspen Institute after stepping down as FCC chairman. The move makes Genachowski the fifth former FCC Chairman in a row to become a senior fellow of Aspen, following Kevin Martin, Michael Powell, Bill Kennard and Reed Hundt.

FOREIGN OWNERSHIP: More than 30 minority and civil rights groups asked the FCC to relax restrictions on foreign investment in U.S. broadcast companies. Such investment generally is prohibited beyond 25 percent of one company. Minority station ownership has experienced "a steep and unprecedented decline," according to the groups, which say the FCC could help reverse that trend. NAB, too, supports such relaxation.

RATINGS SUIT: Arbitron reached a settlement with WKYC(TV), Cleveland to resolve legal action it brought against the station. The ratings firm had sued alleging that WKYC copied and distributed its copyrighted audience estimates without permission. Arbitron also alleged that WKYC improperly used Arbitron's federally registered trademarks to create a false impression that non-Arbitron audience estimates for Internet radio service Pandora were genuine Arbitron products. Gannett-owned WKYC(TV) agreed to settle for an undisclosed sum and Arbitron agreed not to pursue legal action.

STATIONS: The number of licensed non-commercial FM stations is growing. The FCC's latest count puts that figure at 3,917 as of the end of March, compared to 3,860 at the end of 2012. Commercial FMs were relatively flat at 6,603, compared to 6,598 in the previous quarter. During sessions at the NAB Show, attendees heard of AM licenses being turned in, however the bulk of that action may have occurred before the latest FCC station count was completed. As of the end of 2012, there were 4,738 licensed AM stations, compared to 4,736 at the end of the first quarter of this year. The number of FM translators and boosters dropped to 6,053 licensees in Q1 2013 compared to 6,075 in Q4 2012. The number of LPFMs dropped slightly, from 809 at the end of 2012 to 802 at the end of Q1.

World Radio History

AXIA MAKES THE NET WORK.

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

Upgrade an Optimod Power Supply

Plus, energy-efficient lighting products

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

When the switching power supply used in Gary Morgan's Optimod (Fig. 1) died, the OEM replacement would have cost around $600. He sought to find another solution.

If you're still using the original power supply module, the small switching power supply may go bad. This little supply can be replaced easily and re-soldered for about $75 (Artesyn NFS40-7608), but with a lack of adequate cooling, it will be gone again in a couple of years.

Gary got the idea of replacing this supply cheaply by using an ATX computer power supply. It comes with its own cooling fan. Naturally a 300-watt ATX computer supply won't fit into the 8200 processor box, but it does sit on the top nicely and doesn't take up much space in your rack.

As long as the original 8200 15 V linear supply is in good shape, this ATX switching supply will last for many years. Any decent 300-watt ATX computer power supply will work just fine. You'll be using the +12 V, –12 V, +5 V feeds, as well as the circuit grounds.

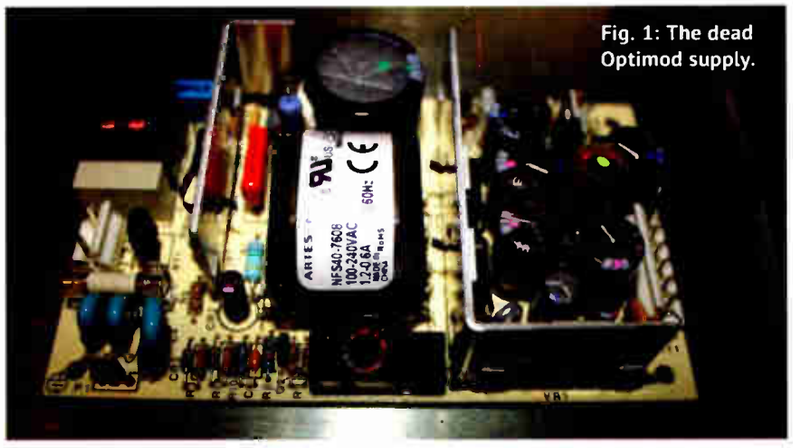

Fig. 1: The dead Optimod supply.

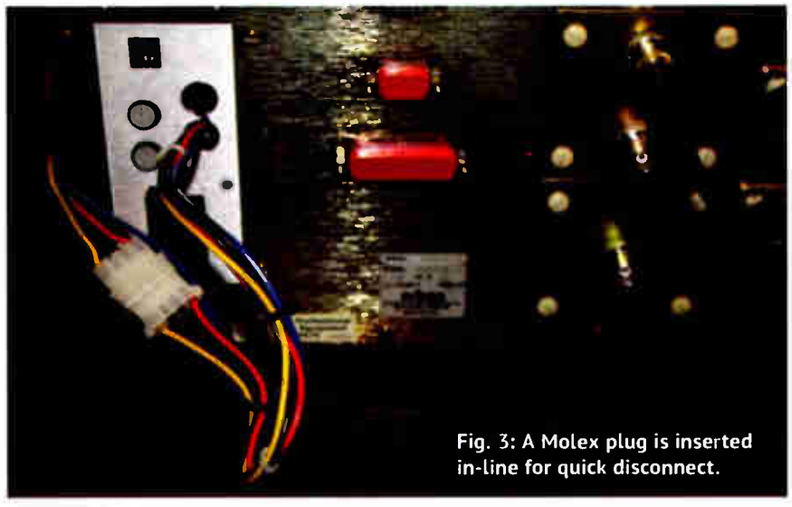
Fig. 3: A Molex plug is inserted in-line for quick disconnect.

Fig. 2: The new supply sitting on top of the Optimod.

Pull the fuse on the original Optimod switching supply, and leave it in place. You can then route your computer supply wires through a small hole drilled in the back of the original supply. The voltage feeds are then soldered to the TP (marked test points) on the original power supply board.

Gary soldered his wires first to the TPs in the box, as seen in Fig. 4, and then attached the wires to a Molex Plug (Fig. 3). This way, the ATX supply can be disconnected from the Optimod if needed. You "turn on" the ATX supply by shorting its green wire to any black (ground) wire. You can use an external switch, short or solder your wires to the internal Optimod on/off switch.

The supply connections are as follows:

+12 VDC (Yellow) — TP-11
–12 VDC (Blue) —TP-8
+5 VDC (Red) — TP-10
Grounds (Black) —TP-9

(continued on page 19)

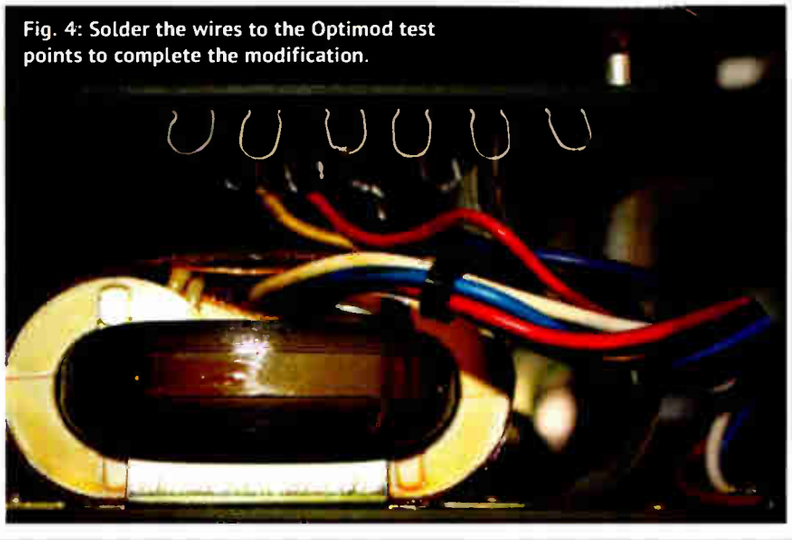
Fig. 4: Solder the wires to the Optimod test points to complete the modification.

World Radio History

MONITOR LIKE A PRO WITH INOVONICS

NEW!

INOmini 633 FM/RDS Monitor

- Receives all standard FM Broadcasts.
- Displays and exports important RDS info for logging & proof of play.
- Alarm tallies for Carrier Loss & Audio Loss.
- Analog L/R and AES digital Line outs.

NEW!

INOmini 634 AM Monitor/Receiver

- Performance AM tuner with variable bandwidth selection.
- Alarms for Carrier Loss and Audio Loss.
- Analog L/R and AES digital Line outs.

NEW!

INOmini 514 Multiplex Decoder

- Demodulates MPX to Balanced L/R Audio.
- Digital AES output.
- Alarms for Audio Loss and Pilot Loss

NEW!

610 - Internet Radio Monitor

- Uninterrupted monitoring of streaming online radio performance.
- Balanced Analog L/R and AES digital outs.
- Decodes and displays live metadata for MP3, Ogg Vorbis and AAC formats.
- Local alarm tallies plus self logging alarms for Audio Loss, Stream Loss & Internet loss.
- Remote web interface + email notifications.

You already know we make great Audio Processors and RDS Encoders, but for us this year's NAB show was all about Monitoring and Broadcast Confidence. With a total of three new **INOmini products** and our industry first **610 Internet Radio Monitor,** essential monitoring of FM, AM and Internet Radio just got a whole lot easier.

Now Shipping! Learn more at:
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INOVONICS BROADCAST

World Radio History

NAB SHOW IN PHOTOS

Audio-Technica offered a 'plus' version of its cardioid pattern condenser mic with USB output, the AT2020USB+.

Photo by Jim Peck

Photo by Jim Peck

The 'sequester' may have kept some federal employees away, but Commissioner Ajit Pai made the trip and was warmly received as moderator of a session on AM revitalization. He shares a laugh with attorney John Garziglia and engineer Glynn Walden. Ideas ranged from wider use of FM translators to an analog 'sunset.' Look for more coverage next issue.

'It's raining? In Vegas?'

Photo by Jim Peck

Photo by Jim Peck

AudioScience introduced a line of audio cards that feature eight channels of HD Radio, DAB, DAB+, AM and FM audio capture. Shown are Matthew Maxson, Kea Ross, Richard Gross and T.K. Pang.

Photo by Jim Peck

Dave Siegler, second from right, VP of technical ops for Cox Media Group, compares notes with colleagues near the Broadcast Engineering Conference sessions. The NAB estimated show attendance at 92,414, up about 1 percent from last year.

MORE ON PAGE 22

World Radio History

A Litt is worth a thousand words.

On Air. Recording. Stand By. Applause!

Communication is key. That's why we created Litt, an all-new high definition LED indicator for broadcasters. Programmable, intelligent and modular, Litt brings a high-tech look to your studio. Perfect for use with our renowned M!ka Mic Arms, Litt takes light to a new level of sophistication and elegance. **Now that's a bright idea!**

reddot design award
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World Radio History

Radio Designers Step Up Their Game

Cool features and design aesthetics are not limited to smartphones and tablets

BY JAMES CARELESS

Newsflash: Radio receiver manufacturers are still coming out with innovative products, even in this age of iPads and smartphones. Here are four of the most interesting that have come to Radio World's attention.

Pure Sensia 200D Connect: A Futuristic Internet Radio ... Circa 1970

With its egg-like shape, the Pure Sensia 200D Connect evokes images of a true futuristic radio — as seen from the sci-fi aesthetics of the 1970s.

But make no mistake: The Sensia 200D Connect is a 21st century Internet radio. In fact, it has so many features that Pure rightly describes it as a portable music streaming and radio system.

Among the Connect's features, it offers a full-color 5.7-inch touchscreen and remote control, 30W RMS stereo sound (speakers mounted at either end of the egg) and the ability to receive stations on FM, the Internet and British digital audio broadcasting, DAB.

The Connect can also access music from WiFi-accessible PCs, tablets, smartphones, MP3 players and USB memory sticks. (The unit can also record to USB stick.) One last cool feature: The Sensia 200D Connect's touchscreen can be used to access Facebook and Twitter.

It sells for $399 at *www.newegg.com*.

Etón FRX3: Emergency Radio Meets Sexy

Who says that emergency preparedness radios can't be sexy? Not Etón: Their FRX3 AM/FM/weather band radio is as alluring in its red chrome (or black) X-shaped radio case as it is functional. The FRX3 comes with a rechargeable battery, plus solar panel and hand-cranked dynamo to keep it topped up at all times.

Besides AM/FM, the FRX3 covers all seven NOAA weather band stations and can be set to turn on whenever NOAA issues a Weather Alert. The hand turbine can be used to recharge USB-connectable devices like smartphones, by connecting them to the FRX's own USB port.

Add a built-in flashlight, "glow in the dark" locator, a red flashing light for emergencies, and even an AUX port to bring in external audio, and the FRX3 is the sexy alternative to boring emergency preparedness radios.

It is readily available online and sells for $59.95. A special American Red Cross version of the FRX3 is available.

Info: *www.etoncorp.comlen*

CC Pocket Radio: The Transistor Radio, v. 2.0

Just because the pocket-sized transistor radio is iconic doesn't mean that it can't be improved.

C. Crane Company, a California firm owned by AM radio fan and engineer Bob Crane, has proven this point with its new CC Pocket Radio.

This standard-sized pocket radio supports AM, FM and weather band broadcasts, and can store up to 55 presets to boot. The CC Pocket Radio also comes with an onboard speaker, headphone jack (stereo for FM), and LCD display with digital up/down tuning.

That's not all: The CC Pocket Radio has numerous cool programmable features built in. They include a NOAA Weather Alert (to trigger an alarm whenever NOAA issues a weather warning), an alarm clock, an AM 2.5 kHz narrowband filter to improve station separation and 1 kHz step-tuning on the AM band. For $59.95, the CC Pocket Radio is a true next-generation transistor radio.

"We loved making this guy," said Bob Crane. "It is perhaps the simplest digital pocket radio made but it still has high performance."

Info: *www.ccrane.com*

Grace Digital Victoria: A Nostalgic Internet Radio

At first glance, the Grace Digital Victoria radio is a 1940s tabletop receiver housed in an elegant 3/4-inch-thick wooden case with gold trim. Look again, and you'll see that the Victoria is actually a fully-featured WiFi-enabled Internet radio.

Using its two knobs and four push buttons — or included remote — listeners can access 18,000 Internet-based radio stations; music services such as Pandora, Sirius and Live365; and audio files from other computers over WiFi.

Tuning information is shown on the Victoria's black and white LCD screen, which seems appropriately in tune with this receiver's nostalgic styling. Meanwhile, the audio delivered by this radio's Class D Digital 16 watt RMS/50 watt peak amp and 4-inch full-range speaker with bass rear port is full and satisfying. Add the fact that you can plug in an MP3 player for extra audio, and use the Victoria as a clock radio, and one can see why it now occupies my bedside table.

"Grace Digital is about producing affordable quality audio products for customers who are looking for more than the standard clock radio," said Greg Fadul, Grace Digital's co-founder. In making the nostalgic Victoria, "we wanted to provide something truly unique to the marketplace, something we knew would elicit a genuine positive emotional response in our customers."

The Victoria is available for $229.99 at *www.gracedigital.com*.

James Careless is a longtime contributor. He wrote about SoundCloud in the March 1 issue of Radio World.

World Radio History

WORKBENCH

(continued from page 14)

Gary has two 8200s that have been running on ATX supplies 24/7 for more than five years. Reach him at *garymorgan@aol.com*.

Robert Gonsett, editor of The CGC Communicator newsletter, writes in a recent issue that the FCC's Enforcement Bureau has done a wonderful job of reorganizing its field actions list into year-by-year pages.

This means you no longer need a supercomputer to download years of data just to see the most recent enforcement actions. Kudos to the commission staff for getting this done. Visit *http://transition.fcc.gov/eb/FieldNotices/*.

And thanks to Robert Gonsett for getting the word out. Robert can be emailed at *cgc333.connectnet.com*.

Craig Pringle started his electronics career as a hobbyist, "playing radio" with a rented Wollensak reel-to-reel and a low powered Allied/Knight Kit three-tube AM transmitter (Model 83Y706). After graduation, Craig worked at a variety of stations.

All radio engineers who use the Chrome browser should have a look at CircuitLab, an extension for Chrome.

Being around all that broadcast equipment he caught the engineering bug, which led to a First Class License and, eventually, the formation of Telfax Communications, maker of the first truly compact telephone remote audio mixer.

Craig's latest venture is VistaBright.com, where he specializes in energy-efficient lighting products for commercial and industrial applications.

He has used the lettering process we outlined in the March 1 column, "Your Panel Lettering Made Easy," but instead of printing on paper, he uses a self-adhesive printing media known as BestPrint, made by Chartpak.

The product is a thin opaque white appliqué film (8.5-by-11-inch sheets with peel-off paper backing), which works nicely in laser printers and copiers. An inkjet version is available.

The finished product is durable and trims up nicely using an X-Acto knife, resulting in a professional appearance for any project.

Reach Craig at *cjp2020@hotmail.com*.

Paul Sagi sends his regards from Kuala Lumpur, and offers a really slick resource for *Workbench* readers using Google Chrome.

All radio engineers who use the Chrome browser should have a look at CircuitLab, an extension for Chrome. You'll find the link at *radioworld.com/links*.

CircuitLab is a schematic editor and circuit simulator. It lets you build and test circuits right in your browser. Use CircuitLab to design circuits with their easy-to-use schematic editor. Then perform accurate analysis in seconds.

The software provides beautiful schematic printouts in PDF form. Watch the video for an idea of what the tool can do. If you do any kind of circuit design, this tool is a must.

Paul also sends a link for multiple virus scanners. Not all virus scanners will detect every virus every time. Thus, it's best to use multiple virus scanners. However that's usually inconvenient — until now. The URL is also on our links page. And you can reach Paul Sagi at *pksagi92@gmail.com*.

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

Author John Bisset has spent 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.

SureStream Enables Affordable Broadcast-Quality STL over Consumer DSL

K@XE 91.7 fm

By Dan Houg, Minesota Public Broadcaster KAXE/KBXE

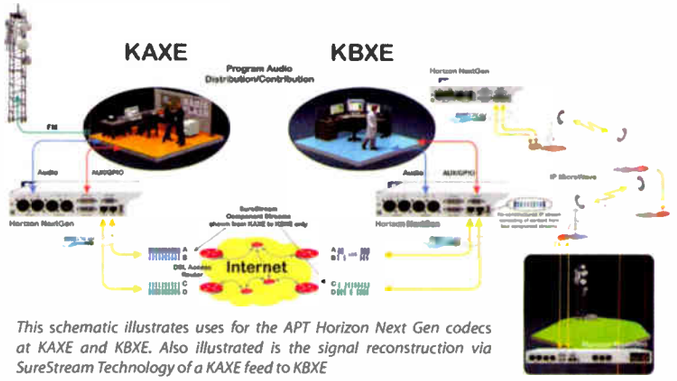
"The APT SureStream technology made possible the impossible: having a high quality, real audio link over open internet"

We at Northern Community Radio operate two public broadcast FM stations in northern Minnesota, KAXE(FM) and KBXE(FM), each with full-power stations and a couple of translator sites. KBXE was constructed in 2012 and I was seeking an STL for the station and interconnectivity to its sister station, KAXE.

When it came time to link the two studios and implement a new STL I was faced with a number of choices on the market. Due to the fact that the two studios were some 70 miles apart a microwave link was not practical, so we needed an alternative economical way to have a 24/7 bidirectional stereo link with CD-quality audio. A dedicated MPLS (multi protocol label switching) metro Ethernet link between KAXE and KBXE was available but cost-prohibitive, so our only other option was sending the audio via IP over the open Internet.

I also needed an audio codec that was rock-solid and reliable but also a solution that could match the economical operational expenditure costs associated with microwave links. But we also needed an STL solution from the KBXE studio to the KBXE transmitter site, which did not have high-speed Internet available at all.

After evaluating several available solutions from a number of different vendors I decided to go with the Horizon NextGen from APT WorldCast Systems for several reasons. The SureStream technology using two Ethernet NICs and gateways creating redundant streams was unique. The feature set with the Horizon NextGen including the relay closures and RS-232 data, which I needed to send control information, was strong. The front-panel audio level indicators were invaluable for quick status indication. APT WorldCast has a sound reputation for audio quality and IP transport and lastly, the product was currently shipping and my need was immediate.



This schematic illustrates uses for the APT Horizon Next Gen codecs at KAXE and KBXE. Also illustrated is the signal reconstruction via SureStream Technology of a KAXE feed to KBXE

For the STL I had a single Internet provider, who provided me with bandwidth at each site. We installed two links per site to utilize the two Ethernet NICs on the Horizon NextGen. These links' average speed is 4 Mbps upload and 7 Mbps download. Over each of the two links I send four tributary streams which are then perfectly recombined to create the broadcast quality audio output, thanks to the APT SureStream technology running on the Horizon Next Gen.

The cost of these four consumer DSL accounts, two at KAXE and two at KBXE, with static IP address, is approx $60/month each.

The 17-mile STL microwave link using the other pair of Horizon NextGens we purchased has an upload download speed of 10 Mbps via a combination of license-exempt Ubiquity Nanobridge 2.4GHz and licensed 11GHz Motorola PTP800 radios. This is more bandwidth than we need. SureStream, in fact, only requires a 700 kbps up/down link on each Ethernet NIC. We own this link and have zero monthly costs other than the power to run it.

Over the time we've been using the Horizon NextGens and SureStream technology we've been able to use very economical consumer level DSL and had a reliable signal with no dropouts. The APT SureStream technology has made possible something that was conventionally assumed to be impossible - that is having a high quality, real-time audio link over the open Internet.

Read complete report at www.surestream.ws

World Radio History

follow the gigabit road

Somewhere in this, the Emerald City, there is an Intelligent Network with more than a million crosspoints connected through a 1,232 x 1,232 audio matrix shared between 21 studios and seven stations, all via AoIP running at gigabit speed. The equipment tally so far: 77 Wheatstone IP88a BLADE access units with 15 Wheatstone control surfaces, 12 crosspoint controllers, three Producer Turrets, 43 Headphone Panels, 23 Mic Control Panels and 45 Mic Processors. Still to come are at least seven more IP88 Blades, 17 mics, 17 headphone panels and 17 mic processors.

Wanna know more about it? Leam how you can benefit. Get the whole story here: **seattle.wheatstone-radio.com**

pictured: Wheatstone LX-24

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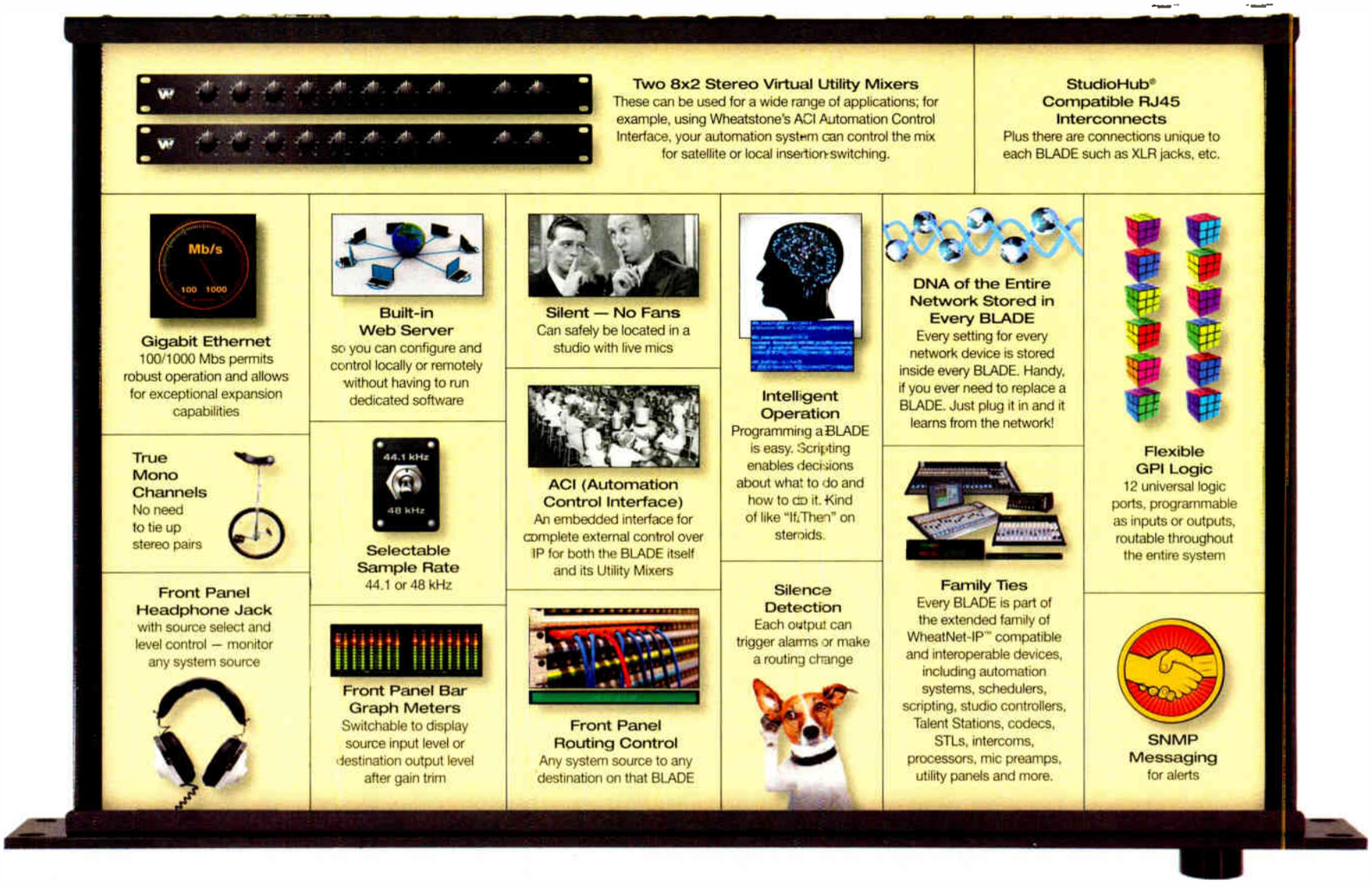
World Radio History



Each BLADE on the Intelligent Network is exceptionally powerful... but do you know about the incredible functionality inside *EVERY* BLADE?

By now, it's a good bet you're aware of the WheatNet-IP Intelligent Network. You know about its advantages - how it's obsessively compulsive about redundancy. How it can repair itself, configure itself, run rings around the competition while still having much greater bandwidth (due to its Gigabit Ethernet throughput) - enough, in fact, to not only handle our increased functionality today, but well into the future.

So we figured it's time to let you know a little more about those boxes you plug into the Intelligent Network. The ones that contribute to its intelligence. They're called BLADES and from inception have been far more advanced than any boxes on any other networks out there. Take a look and consider how you'd put all that to work in YOUR WheatNet-IP system.

WHEATNET-IP: THE INTELLIGENT NETWORK

Wheatstone

World Radio History

NAB SHOW IN PHOTOS

Photo by Jim Peck

Ted Staros of Harris Broadcast reacts to a point in the AoIP sessions. In the wake of its recent sale, company employees have had to get used to emphasizing that they work for 'Harris Broadcast.'

Photo by Kovacs/Dawley

Colorful mic breath filters at the Schulze-Brakel booth.

Photo by Jim Peck

The stage was laden with engineering talent when past recipients of the NAB Engineering Achievement Award joined this year's honorees. From left: Ira Goldstone, Sterling Davis, Mark Richer, Merrill Weiss, Glenn Reitmeier, Jay Adrick, Geoff Mendenhall, Frank Foti, Jack Sellmeyer, Leonard Charles, Glynn Walden, Bob Orban, John Turner and Ron Rackley. Wow.

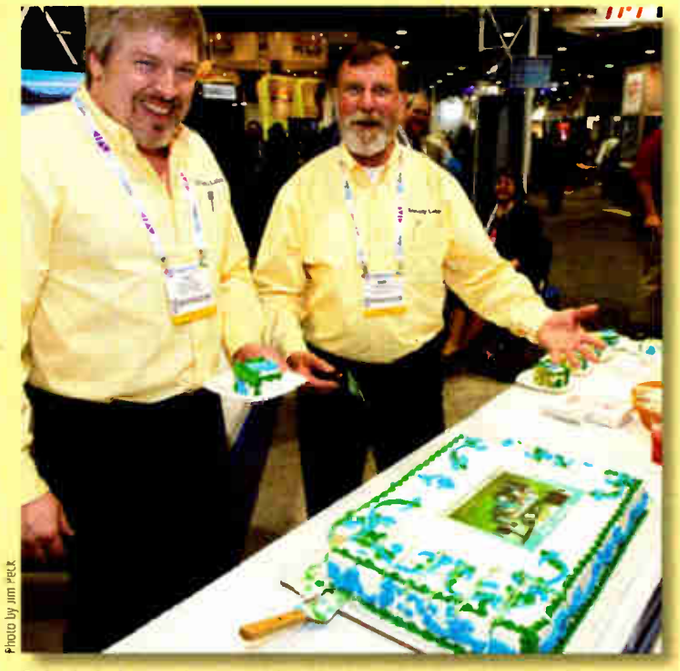


Photo by Jim Peck

Shively Labs has been making FM broadcast equipment since 1963 and thus is celebrating its 50th anniversary. Dale Ladner and Bob Surette cut the cake. The firm was founded by Ed Shively, an innovator in circularly polarized FM broadcast antennas.

Photo by Kovacs/Dawley

Metering and monitoring company RTW has opened a U.S. branch in Lancaster, Pa., and named Christopher Spahr, left, to be its U.S. director of sales and operations. He was introduced by Mahmoud Chatah.

Artist Experience visuals are shown on an HD Radio receiver. IBiquity Digital says it's seeing significant growth in digital broadcast services and receiver sales.

Photo by Jim Peck

MORE ON PAGE 31

World Radio History

Cure Your Station's Summertime Blues

Get on top of these promotions before things heat up

PROMO POWER

Mark Lapidus

While summer isn't here quite yet, most of our listeners have already made their vacation plans. My wife reserved our summer beach place with friends all the way back in January. This should be a reality check for those of us who have not yet planned summer promotions.

Newsflash: Your general manager wants you to make money from these activities, and your sales manager won't have a shot at that unless you clue her in fast about what you've got planned.

Nothing says "beginning of summer" like Memorial Day. No doubt if you run a music station you're considering at least one song or artist countdown that could be sponsored. Many bars and restaurants celebrate the sun by opening their outdoor areas over this particular weekend.

Sell one of these locales to be a remote broadcast, or at least a cut-in from what becomes your patio party. For example, any excuse will do to show off the latest line of swimsuits. You might hold a tastefully done Sunday brunch in the center court at the mall, thus picking up three clients in one fell swoop: The store that sells the swimsuits, the mall and a restaurant in the food court that offers a pre-fixe menu or discounts (mention all three in promos).

"Daddy, I bought you a tie!" Father's Day in June pulls at the heartstrings and gives you another opportunity to get in front of fans and tug at the purse strings of some clients who need your help pulling in a crowd.

Before dad's big day, run a Facebook

(continued on page 26)

iStockphoto/Carrie Wendel

The best digital recorder design is the one you already know.

In a world full of digital recorders, we still love the handheld microphone's intuitive design and familiarity. The iXm's ingenious, onboard LEA engine gives you perfect audio levels every time. Our dual power system uses rechargeable lithium ion and AA batteries and lets you choose your primary power source. Removable capsules give you cardioid, super-cardioid or omnidirectional pickup patterns.

Bring an iXm to the most demanding locations in the world and get ready to be amazed.

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World Radio History

Be the Morale-Boosting GM

Good management starts with building self-confidence among your employees

MANAGEMENT

BY GARY BEGIN

Most of today's best radio managers have had to manage people by trial and error. There is no one training process for radio management, nor is it simple. You're also overseer of the station's morale.

Managing personnel has not always been one of the main criteria for becoming program director or general manager; yet these positions often dictate the station's management style and the morale that results.

You've got to rise above your personal feelings and let your immediate emotional response pass before you determine how to respond in a conflict.

As consultant, I've noticed the importance of maintaining the staff's confidence as a leader. You can't lead if those following aren't convinced you're the one for the job. In a conflict, you've got to rise above your personal feelings and let your immediate emotional response pass before you determine how to respond.

The most basic element in managing and creating positive morale is the art of honest communication. People don't execute what they don't understand. Good communication is a priority of the highest level. People best accomplish that which they embrace — or at the very least understand.

Take responsibility for your actions; it is the only way to manage people effectively. Own up to "doing the right thing" at all times. This is a masterful way to demonstrate integrity while gaining respect of the staff.

Whether you caused a problem or not, take the responsibility to bring it to the attention of management so it may be addressed. We respect a person who admits to mistakes, asks for help or guidance to correct it, and then does what's necessary to make things work.

How do you best describe your management style? Are you hands-on, laid back or someplace in between? Is it important to "park your ego at the door"?

Each manager has his or her ways of accomplishing effective ways to manage morale. You must hire people who can understand and are willing to conform to your standards of excellence. Provide them with the best tools your budget allows.

Involve them in all aspects pertaining to department and individual goals, and then establish a system of meetings and reports, which allows you to track their progress without interfering with their day-to-day endeavors.

Further, a management mission statement for the station or group is an effective way of enlisting staff and encouraging them to work toward the same goals.

iStockphoto/Jacob Wackerhausen

Powerful managers enlist staff participation.

Ask staff to participate in the process. It increases morale while creating ownership in the principals important to the collective group.

The ultimate mission statement, which I use as a "way of life," is that if you believe your station or group is the best place in the state or country to work, ultimately the best people will want to work here.

Gary Begin, with partner Steve Bianchi, is a radio consultant, researcher and strategist with Identity Programming, a multi-format consulting firm specializing in small- and medium-growth markets. It is based in Jackson, Tenn., with offices in Warwick, R.I. Reach him at (731) 437-0536 or via garybegin@jaxnet.net.

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PEOPLENEWS

Clear Channel tapped **Steve Geofferies** as VP of programming in Phoenix. In **San Diego** the company chose **John Peake** as its new VP of programming and as program director for Star 94.1 KMYI(FM). Clear Channel also tapped **Anthony Fuscaldo** as VP of sales for six Philadelphia stations, and in **Detroit** named **Bryan LaRoche** as assistant program director, music director and afternoon host at WKQI(FM). **Clear Channel Memphis** says Devin Steel has been named operations manager and regional programming manager for Jackson and Laurel/Hattiesburg, Miss.

Todd Harris

Clear Channel Austin has tapped **Todd Harris** as its vice president of sales for the five-station cluster consisting of KASE(FM), KHFI(FM), KPEZ(FM), KVET(FM) and KVET(AM). **Clear Channel Jacksonville** has named **Marv Nyren** vice president and market manager. He will lead and manager Jacksonville, Fla.'s, cluster, which consists of WFXJ(AM), WJBT(FM), WJGH(FM), WNWW(FM), WQIK(FM) and WSOL(FM).

Marv Nyren

The **Broadcasters Foundation of America** presented **David J. Barrett**, chairman and CEO of **Hearst Television Inc.**, with its 2013 Golden Mike Award honoring exemplary service to the industry at a benefit gala at the Plaza Hotel in New York City.

Cumulus Media has added **Steve Shaw** as senior vice president for Cumulus National Sales, based in New York.

The Association of Public Television Stations presented its Champion of Public Broadcasting Award to **Oregon Rep. Greg Walden**, chairman of the Subcommittee on Communications and Technology. The award is given to lawmakers and other individuals who safeguard the ability of local public television stations to provide educational, informational, cultural and other essential public services to their communities, according to the group.

World Radio History

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World Radio History

SUMMER

(continued from page 23)

photo contest searching for your city's ugliest tie. (This is a good co-promotion with a local TV station's morning news program.) Have the finalists wear their ties to a show being broadcast on TV and let people vote via Web or hold an event at a store or restaurant. The winner of the ugliest tie contest gets a designer tie, suit, shoes; the whole nine-yards.

An old favorite is "The Father's Day 500," in which you have fathers race their lawnmowers. You'll need quite a bit of space, a starting pistol, a linesman and some cool handyman prizes from your hardware store or stores that sell lawn care equipment.

There's something for every radio station in America for Independence Day. From patriotism to commercialism, the choices are almost as endless as your creativity. I love parades, and a radio mentor of mine once said, "If you can't create a parade, at least get in front of one!" If you do nothing else for the Fourth of July, your personalities can at least connect with fans by being on a float with a local club, and helping with public address announcements (if any are done).

Or do call-ins with some colorful commentary from either from people watching the event, or from someone from your staff, on-air. Remember that we still have troops all over the globe, certainly from your hometown, and if you start now you can get at least a few dozen shout-outs from them to your town — or from your town to them. Yes, these greetings and your parade coverage could be tastefully sponsored.

The dog days of August are great, because you can pick any days you want in that month to celebrate. Because you're making this up as you go along, have fun for a week or two, or the whole month. Best "Bark of The Week," wins a month's worth of dog food, brought to you by Pet Giant, say. Play these barks on-air, put the sound files on your website, and let people vote.

You could have listeners submit videos for "Best Dog Trick of The Week" to win a special treat of ice cream for the entire neighborhood. Give away hot dogs every day for a week at your local minor league team's place for anyone who brings a picture of their dog. Or, as McGruff says, "Take a Bite Out Of Crime" by featuring photos and stories of local police dogs and their accomplishments.

When summer wraps up on Labor Day, award a down payment on a kid's college savings plan from a local bank, for the couple who gives birth first at 12:01 a.m. on Labor Day. This one requires at least a few weeks of pre-promotion (if not nine months). If a bank isn't game, try a children's medical practice or a specialty store like Buy Buy Baby.

As the Gershwin tune goes, in the summertime, the living is easy. So plan large and enjoy!

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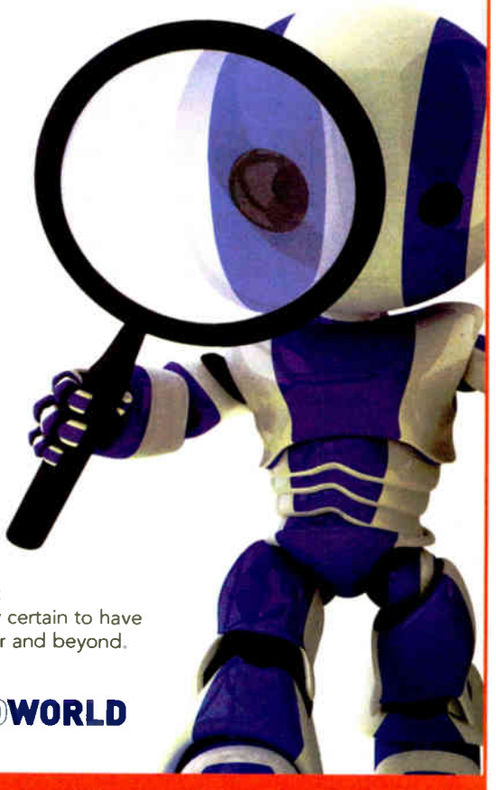

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World Radio History

LANCTOT

(continued from page 4)

him after buying a stripped down Impala, "Dad, all I need is an aux jack and a phone"). Lanctot says yes, such conversations have come up among carmakers and audio companies. Anything is possible in an age when manufacturers are exploring electric vehicles, three-wheel vehicles, self-driving vehicles.

But Lanctot doesn't see that outcome as likely. The car user interface is a special instance, he says, because of the safety issues. Meanwhile free broadcasting remains a key source of emergency information and, increasingly, critical data services. (If anything, he feels satellite faces a bigger threat in the dash. "There are carmakers that are saying, 'Look, take that satellite content and send it over an IP stream, because we want to get rid of that box. It's not doing anything for us.' Whereas the cost of an AM/FM tuner is pennies.")

He summarized the challenge for radio as "how to get its local content to all possible locations where listeners may want to find it based on their preferences, in a profitable way that's easy to understand and to use."

It's a big job. But broadcasters have the opportunity to participate in redefining this key user experience. And they aren't alone in trying to figure all this out.

"The car makers are having the same trouble with Windows 8 and Android and BlackBerry and enabling all those devices to work in cars," Lanctot points out. "These are multimillion-dollar investments in hardware, testing and focus groups."

The car is a critical listening platform, he concludes. "It's a huge fragmented mess right now. Anyone who thinks, 'It's too late, I've screwed it up, everyone's using Pandora…' No. Pandora has its own problems. Don't worry about Pandora. Improve access to your own content on these emerging platforms."

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

PEOPLENEWS

The **Georgia Radio Hall of Fame** awarded the 2013 Founders and Directors Award to **James "Alley Pat" Patrick**, disc jockey at WERD(AM) and WAOK(AM) Atlanta.

James "Alley Pat" Patrick

James W. Woodruff Jr. is the recipient of the 2013 Elmo Ellis Spirit Award.

James W. Woodruff Jr.

The **Radio Advertising Bureau** has appointed **Brooke Trissel** as senior vice president for membership.

Veteran engineer and equipment salesman **John Bisset** has joined the **Telos Alliance** as director of western sales for radio brands.

CEI Sales, a subsidiary of multimedia consulting, design and integration company Communications Engineering Inc., has added broadcast, cable and satellite industry veteran **Rudy Niznansky** as a sales engineer.

Rudy Niznansky

Orban announced the promotion of **David Coggins** to vice president of manufacturing operations, and **Keith Cheatem**, a 20-year veteran at the company, has been promoted to director of customer service and sales support.

Media executive **Maureen Lesourd** has been named senior vice president/general manager of **Lincoln Financial Media**'s Miami cluster, including adult contemporary WLYF(FM), classic hits WMXJ(FM) and sports WAXY(AM/FM). She will fill the vacancy left by **Jeff Dinetz**.

Chris Barrett, formerly the vice president of engineering for the Ottawa-based **Stratford Managers**, has joined digital content distribution equipment maker provider **International Datacasting** as its vice president of research and development.

Arbitron has chosen **Monica Narvaez** to fill the role of hispanic broadcaster account specialist.

The **National Federation of Community Broadcasters** has named **Walter Sheppard** the recipient of the 2013 Bader Award. For nearly a quarter century, Sheppard advanced the cause of public media and community radio through his work at the Dept. of Commerce's Public Telecommunications Facilities Program.

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World Radio History

Radio Garage and the Aphex Channel

A production house upgrades its Aphex 230 to the Aphex Channel

FROM THE FIELD

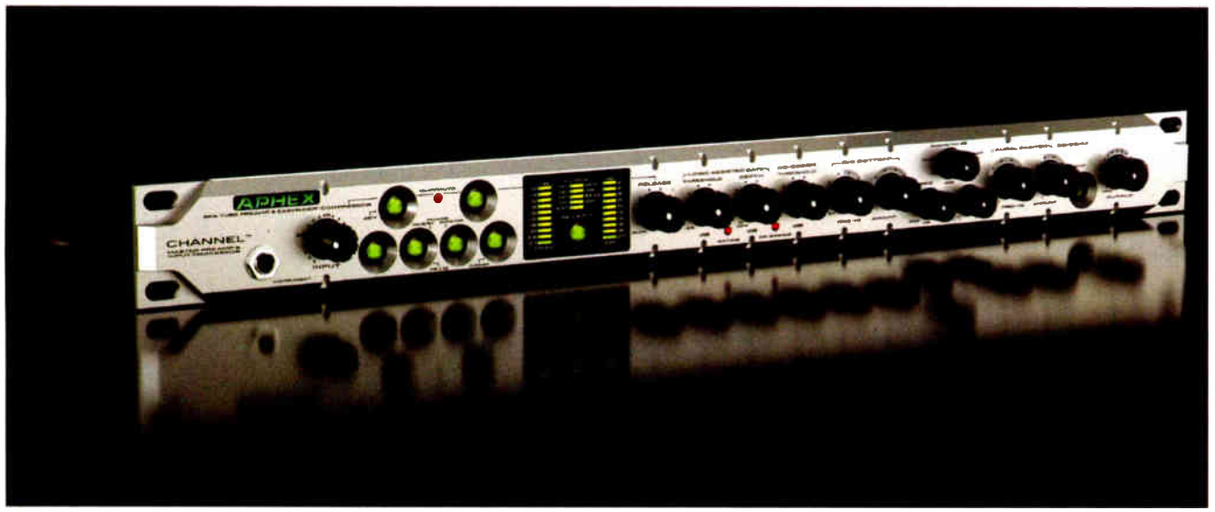
BY MARIO HIEB

I've known Steve Mathews of Radio Garage Productions since radio commercials were recorded on "carts." You remember? Those little plastic cartridges with a continuous loop of audiotape inside them?

At the time, Steve was the production director of KIMM(AM)/KGGG(FM) in Rapid City, S.D. Steve would spend his mornings typing his scripts and cart labels on his typewriter. Later in the day, he would take the scripts and wedge them between a very tall stack of carts and his chin. With a cigarette hanging out of his mouth, Steve would then rush into the production studio before the whole cart stack collapsed.

Inside the studio, Steve would spend the next couple hours smoking cigarettes and performing his own brand of radio production magic. These spots were good; no, great.

The whole radio station sounded better because of him.



LEGACY

With references to "carts," "typewriters" and "cigarettes" inside radio studios, you've by now realized that I have known Steve Mathews a long time. Today he is the founder/owner/head audio mechanic at Radio Garage Productions in Des Moines, Iowa, one of the top radio commercial production facilities in the country.

In addition to writing and producing radio commercials, Radio Garage does audio for online training, corporate communications, Flash, PowerPoint, etc.

For years, I have been pestering Steve to try one of my favorite professional audio products, the Aphex 230 Master Voice Channel. Over the years, I have used the 230 to make microphones and talent sound better. Finally one day, Steve caved in to my pressure and bought one for Radio Garage.

"At Radio Garage, our voice talent ranges from experienced announcers to the first-timer," says Steve, adding, "We try to make everyone sound good no matter who they are or what mic we use. The Aphex 230 has helped us make them sound better."

Radio Garage has been in the audio recording business for over 22 years, he said. "We produce audio for clients all over this country. From just the right compression to keep the screaming woman from clipping the audio, to adding that just right richness, to de-essing that business owner's little girl's voice, the Aphex really does what it says it will."

UPGRADE

Recently, Steve upgraded the Aphex 230 to the improved and rechristened Aphex Channel, so I travelled to Radio Garage in Des Moines to give Steve's mic chain a tune-up.

The Channel has the same features as the Aphex 230, but with several improvements. On the front panel, the Channel now has separate gain reduction and peak audio meters. In the same display is a clock select-and-display feature.

Also there is a low-level input with a TRS jack on the front. Along with a new name, the panel is redesigned to reflect the product enhancements. "Sweet spot" guides for several controls are silk-screened on their respective scales.

(continued on page 32)

PRODUCT CAPSULE

APHEX CHANNEL
Master Preamp & Input Processor

Thumbs Up
+ Tube preamp with Spectral Phase Refractor
+ EasyRider compressor
+ Aural Exciter
+ Big Bottom bass enhancement
+ Other goodies

Thumbs Down
– Runs a little warm
– More expensive than most mic processors

Price: MSRP $1,299; street $999

For information, contact Michael Hurwitz at Aphex in California at (818) 767-2929 or visit *www.aphex.com.*

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NAB SHOW IN PHOTOS

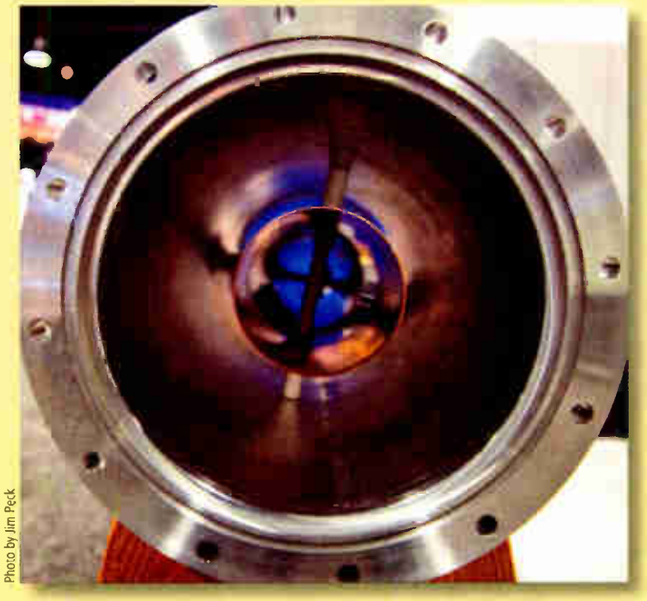

Photo by Jim Peck

The inner conductor is suspended in this closeup view in the Myat booth.

Photo by Kovacs/Dawley

Marilyn Reeves with International Tower Lighting tests a modular component from a red LED beacon.

Photo by Jim Peck

Doug McFadzen, right, answers questions in the Radio Design Labs booth.

© NAB

Community service is the path to crystal for stations honored with the NAB Crystal Radio Award: KIRO(FM), Seattle; KSFI(FM), Salt Lake City; KUZZ(FM), Bakersfield, Calif.; WCVQ(FM), Clarksville, Tenn.; WHUR(FM), Washington; WKDZ(FM), Cadiz, Ky.; WPEG(FM), Charlotte, N.C.; WQHT(FM), New York; WTOP(FM), Washington; and WYCT(FM), Pensacola, Fla. The Crystal Heritage Award for long-term commitment to service went to KNOM(AM/FM), Nome, Alaska.

Photo by Jim Peck

These days, you can never have too many screens.

Photo by Kovacs/Dawley

Antonio Calderon, left, answers questions as Juan Carlos Rincon, right, of Ingtel Ltda. tries out Broadcast Depot's FM on-air studio.

MORE ON PAGE 37

World Radio History

APHEX

(continued from page 30)

Unchanged is the microphone preamp circuit utilizing a vacuum tube reflected plate amplifier with Aphex's Spectral Phase Refractor circuit. Sometimes called a phase scrambler, this makes the voice signal more symmetrical and easier to process.

Why a vacuum tube in a modern audio product? "Today's digital audio equipment is sometimes 'too perfect' and can often sound cold and sterile," Steve explains. "Despite noise and other issues, the old vacuum tube gear — and even the audio tape — added something pleasing to the sound."

I agree that certain harmonics generated by a vacuum tube amplifier are pleasing to the ear, giving warmth and detail to the audio.

Steve Mathews and His Treasured Aphex Channel

DYNAMIC RANGE

"We use the Channel to compress the dynamic range of the voice, giving it more clarity and impact," Steve says. "Some people have a problem with 'plosives,' such as the letter 'P.' Pop filters can help, but we often need to back the talent off the mic. The Aphex Channel's EasyRider compressor stage then restores voice power and presence. Problem solved."

Aphex's patented Wave Dependent Compressor automatically adjusts attack-and-release times according to program complexity. A no-knee compression curve circuitry automatically adjusts compression ratio based on program levels.

Steve can also remove unwanted sibilance using the onboard de-esser threshold. Once these are set, then the remaining processor stages included in the box: the company's "Big Bottom" bass enhancer, parametric EQ and the also famous Aural Exciter can be added to taste, or not used at all.

"We use these controls to achieve a voice effect, improve a voice or match a microphone to other audio," he says. "The EQ is useful to increase 'resonance' in a voice. The Aural Exciter can enhance clarity, presence and loudness in voices; like a spice, sometimes a little bit is all that is needed."

The final stage on the Aphex Channel is the output control; some know it as "make-up gain." Compression and other processing can change the final output level, so check this setting anytime you make a change in processing.

The Aphex Channel provides many flavors of output signal types including balanced (+4 dBu) and unbalanced (–10 dBV) analog outputs, and AES/EBU, S/PDIF and TOSlink optical digital outputs. One more thing: Aphex recommends that to maintain the best signal to noise performance, do not feed the Aphex into a microphone level input.

DWV Entertainment Group, the parent company of Aphex is including Channel technology in its new product offerings, so as we say in our biz ... Stay Tuned!

Mario Hieb, P.E., is a broadcast consulting engineer with more than 30 years of experience.

FREE SOFTWARE

Plug-ins From Russia With Love — The Sequel

In the March 1 issue of Radio World, I looked at four free plug-ins from Russian developer Voxengo — two EQs, a mid/side processor and a spectrum analyzer.

The man behind Voxengo is Aleksey Vaneev. He explained to me why he was offering such fine plug-ins for free: It's "a good marketing practice that brings website visitors that may later be interested in paid plug-ins."

At the company's website, you can find a host of free and paid VST and AU plug-ins for Windows and Mac-based DAWs — from mastering EQs and compressors to tube amp simulators.

As I said in the previous column, these plug-ins are pretty impressive for freebies. So much so that I had to go back for seconds.

This test drive involves four more free offerings. These four don't provide the surgical tools of the previous bunch, but are more along the lines of effects and other handy "gadgets."

GO TO SKOOL

First up is the OldSkoolVerb. As the name implies, it's a good old-fashioned reverb plug-in, reminiscent of a rack mount unit, with the added features of a three-band EQ and high- and low-frequency damping controls.

Operation is fairly straightforward. Select the size of your "space," adjust the pre-delay (how long it waits to simulate early reflections, longer time implies a larger space), time (how long the effect lasts) and width. The EQ and damping controls can then adjust the overall tonal quality of the reverb signal.

Dry and reverb gain controls adjust the balance of their respective signals. The sound quality is good for a free plug-in. I found the "plate" presets to be the cleanest sounding. As with most reverb plug-ins, a little goes a long way — so don't get carried away or you'll have a pile of mush.

SPECIAL SAUCE

Next is the Tube Amp. This tube amp simulator is easy to use and can produce a range of sonic "special sauce" from gentle tube-like compression to a full-on guitar-shredding distortion fest. The factory presets include useful settings to start with, especially the mastering settings. These are surprisingly clean for a plug-in that's essentially introducing distortion into the mix. It also includes an optional soft-knee limiter on the final output, as well as the ability to handle not just stereo but 5.1 surround signals.

World Radio History

OldSkoolReverb

TOUCH ME IN THE MORNING

Third is Stereo Touch, a mid/side encoder that can take a mono signal and effectively create a convincing stereo output. It takes the mono signal and creates two separate outputs, a mid (center) signal and a side (stereo) signal. The side channel is then gain- and delay-adjusted to the desired effect. At extreme settings, a surround effect can even be produced. It takes a bit of experimentation to get the hang of it, and the included factory presets are certainly helpful in getting started. Just be sure to check the end result for polarity issues.

Tube Amp is a tube amplifier simulator.

BEEP-BEEP!

Finally, the Beeper is a simple, handy tool for inserting a "beep," noise burst, or even silence at adjustable intervals into an audio mix. This is to prevent theft of sample mixes or other sensitive pieces of digital audio. It can also be used to slate and identify and separate segments of audio such as long interviews. The frequency of the tone, its duration, and the interval are all adjustable. The interval can also be randomized. The plug-in doesn't otherwise affect the audio, so it's safe to use on mission-critical material.

The Beeper creates ... beeps.

As with all Voxengo plug-ins, these all have the ability to load two different presets for A/B comparison, and allow for multiple signal routing options to be programmed into available hot keys. Custom settings can also be saved in addition to the factory presets.

As they say in Russia, "Na zdarovie!"

If you have any plug-in comments or suggestions, Curt can be reached at *cyengst@star991.com*.

Info: www.voxengo.com/group/free-vst-plugins.

— by Curt Yengst

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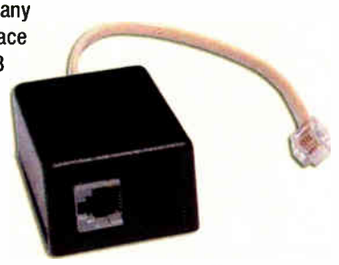

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World Radio History

RadioDNS Hybrid Radio Accelerates

Why broadcasters should make an 'initial, slight effort' to start Hybrid Radio services

COMMENTARY

BY NICK PIGGOTT

Hybrid Radio uses existing FM or HD broadcasts as a robust and reliable way to deliver audio, but presents them like an app, by using additional metadata (such as logos and descriptions) delivered over an IP connection (WiFi, 3G, LTE). This all happens automatically and without any user intervention.

Apart from the obvious music royalty cost issues, moving away from audio streaming helps listeners by reducing IP data consumption and battery drain on portable devices. If the listener loses FM reception, he or she can be switched automatically to streaming until such time as the FM signal improves, and then automatically switched back to FM. "Uses 95 percent less data" isn't yet a strong consumer benefit, but it surely will be in the future.

RadioDNS is the not-for-profit organization that promotes the concept of Hybrid Radio by setting the technical standards to support it. Its membership encompasses broadcasters in the United States, Europe and Australia, and comprises a mix of manufacturers, broadcasters and service providers.

We at Radio DNS have adopted an open approach to technology development, which is inspired by the collaborative nature of Internet standards. We use existing Internet technologies like DNS, but glue them together in a way that's helpful for radio. All the data and interaction goes directly from the listener to the broadcaster, and not via RadioDNS.

OUR GOALS

We recently held our sixth general assembly in Geneva, Switzerland. It's our busiest meeting of the year, with elections, reports, reviews and forecasts. It's a reflection of the organization's growth that the business discussed this year was more operational and immediate than in previous years, which dealt mostly with establishing the organization.

As more manufacturers are looking to launch devices, there's a need to register a clear visual logo for "RadioDNS Hybrid Radio" for consumers. Similarly, increased manufacturer and broadcaster interest means there will be a dedicated Test and Demonstration environment for RadioDNS. The project website will be overhauled to make information easier to access, and sections for various languages added, and more countries are invited to join the collaboration.

RadioDNS's technical projects continue to evolve, reflecting input and experience from broadcasters in all nations. RadioVIS, our visualization layer, now supports devices of all resolutions, including the latest "Retina" style displays.

The RadioEPG team is working with IMDA to create a single EPG system for radio, the "Hybrid Radio EPG." And the RadioVIS team used the RadioDays Europe conference to demonstrate our progress toward a simple but powerful tagging or bookmarking system that is universal across radio stations, devices and countries.

Major automotive OEM Visteon demonstrated that much of this functionality on their range of car radios at the same RadioDays Europe conference. Even their most basic car radio allows you to tether a cellphone via Bluetooth to receive the station information on a color screen. When you tune to FM in the dash, the smartphone shows all the additional information and

(continued on page 38)

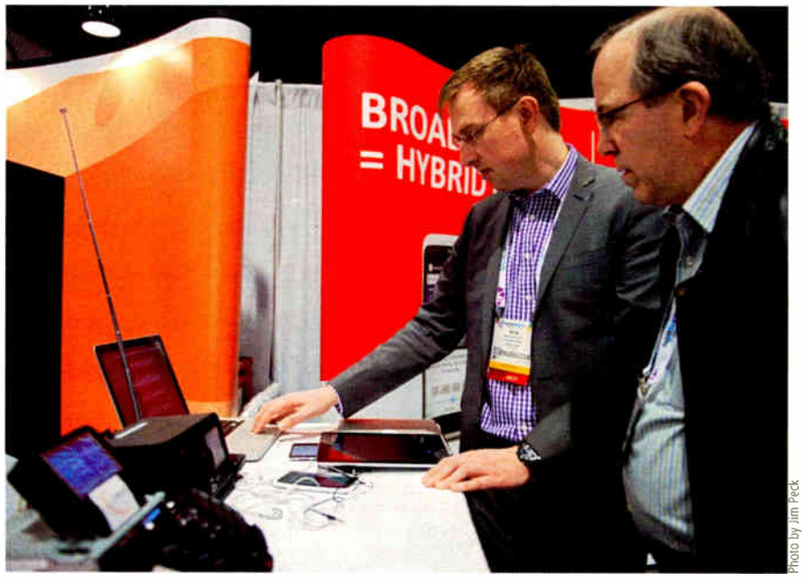
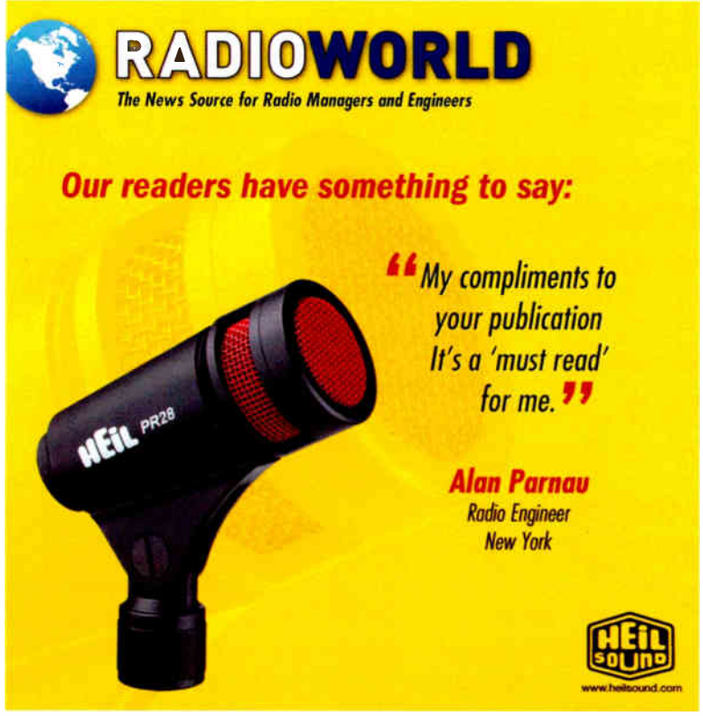


Photo by Jim Peck

Nick Piggott, left, demos RadioDNS at the NAB Show for Rick Benson of Cox.



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World Radio History

NAB SHOW IN PHOTOS

Photo by Jim Peck

Like any good FM broadcaster, Jampro seeks some elevation — here, with a promotional helium-filled booth balloon.

© NAB

And for a taste of TV: 'American Idol' was inducted into the NAB Broadcasting Hall of Fame. Record producer and show judge Randy Jackson brought some celebrity pizzazz to the proceedings.

Photo by Jim Peck

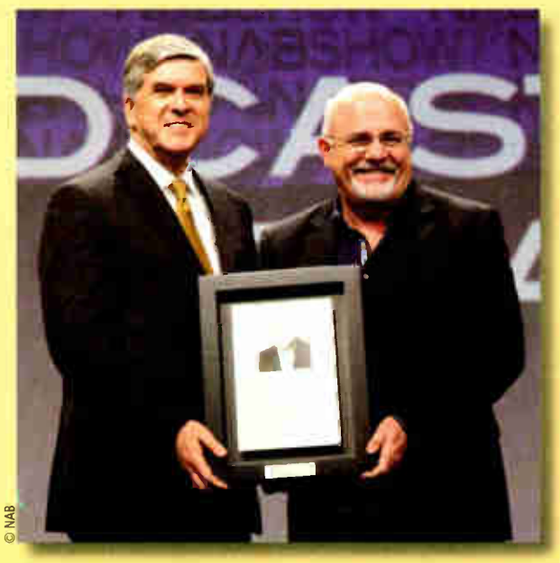
Things can get out of hand at the ham reception.

Photo by Kovacs/Dawley

Randy Brown with Soundproof Windows looks through a mini version of the company's 1.75-inch thick steel door.

Photo by Kovacs/Dawley

At left, Dan Barton of Alive Telecom discusses features of the Myat N+1 switching matrix with Myat's Bea Porta.



© NAB

Dave Ramsey, right, was inducted into the NAB Broadcasting Hall of Fame. He's shown with NAB President/CEO Gordon Smith. Ramsey started in radio in 1992. He told the NAB Show Daily News, 'To this day, I love radio because it is theatre of the mind; it is a very intimate medium. You can feel the pain, humor, lies and drama.'

World Radio History

RADIODNS

(continued from page 36)

visuals, and creates the click-through or bookmarking functions.

RadioDNS Hybrid Radio has been enthusiastically adopted in Europe, where it's now available to more than 70 million radio listeners a week in the United Kingdom and Germany, and in six other European countries. In the United States, Clear Channel, Emmis, Cox and the NAB are all active supporters of RadioDNS, and contributed to demonstrations at the 2013 NAB Show in Las Vegas in April.

Manufacturers like Philips, Pure and Revo incorporated Hybrid Radio into their tabletop radios and, most interestingly, in iPhone docking stations, where the visual information and interaction is displayed on the iPhone screen.

BROADCAST FIRST

Of course, the key question remains whether the concept of Hybrid Radio can reinvigorate broadcast radio in the smartphone. There's no doubt that people like listening to radio on smartphones, evidenced by the rise of apps like TuneIn and iHeartRadio.

Hybrid Radio could play a stealth-technology role here, by silently switching people from streaming to broadcast radio without disrupting their experience. Conversely, it would allow smartphone manufacturers to overhaul their existing FM radio apps to be as good as TuneIn or iHeart.

There should be every motivation for incumbent broadcasters to promote the idea of "broadcast first," not least because even the most crowded FM market is less daunting to navigate than 10,000 stations in an Internet service.

It's interesting to note that Internet radio providers are now doing what they can to make their listings more relevant by filtering them down to "local" stations first: the stations people know, love and listen to most. The percentage of "real" radio listeners genuinely seeking to expand their listening experience with out-of-market stations is probably very low.

What's holding smartphone manufacturers back? In short, interest.

They don't believe there's any interest from broadcast radio, so it doesn't warrant resources to rewrite the apps. It's upon the broadcast radio industry to reignite that interest by championing all the unique benefits of broadcast radio, and to reinvigorate the presentation of radio on a smartphone with Hybrid Radio content.

Broadcasters must make the initial (slight) effort to start Hybrid Radio services for their stations first, before the smartphone manufacturers can justify revisiting broadcast radio.

RadioDNS works closely with both broadcasters and manufacturers, coaxing and helping them towards Hybrid Radio. As a small organization, we concentrate on bringing people together to share problems and create solutions collaboratively.

We can harness the collective energy and resources of the global radio industry to help reinvent broadcast radio as a genuine and powerful competitor to streaming services.

This "agree on technology, compete on content" sentiment means we can harness the collective energy and resources of the global radio industry to help reinvent broadcast radio as a genuine and powerful competitor to streaming services.

Nick Piggott is chairperson for the RadioDNS Project.

WRITE TO RW

SEND A LETTER TO THE EDITOR:
Email **radioworld@nbmedia.com** with "Letter to the Editor" in the subject field. Please include issue date.

READER'SFORUM

YES VIRGINIA, MRF315A REPLACEMENTS DO EXIST!

Mark Person's article in the April 10 issue ("Repairs Extend Lives of FM Exciters") was great. However, he mentions having replaced the amplifier deck in an 802A because he couldn't get an MRF315A transistor.

He and your readers should know that Advanced Semiconductor makes equivalents to all of the Motorola RF transistors. Their website, *www.advancedsemiconductor.com*, lists datasheets for what they have available.

Their MRF315A replacement definitely works in the 802A and should be available through Mouser. I have used them with good success.

Scott Dorsey
Engineer
Kludge Audio
Williamsburg, Va.

Mark Persons replies: Glad to know that a company has picked up where Motorola left off. The Continental parts department had no knowledge of that when I called to get parts. The Advanced Semiconductor offering must be recent because Mouser and RF Parts did not have one at the time, probably six months ago.

My other source was NTE Electronics, which offers the NTE360 as a replacement. I was told the NTE transistor was problematic and was not reliable in that exciter. Building transistors to the original Motorola specs and quality is what the industry needed.

SUBSTANDARD APPROACH

Regarding the story "IBiquity Doubts DPR Performance Claims" (*radioworld.com*, March 29):

Innovators in the art and science of digital modulation are quick to point out that the iBiquity methodology will be technically obsolete within a decade. On the AM-MW band, relying on phase-modulated narrow sidebands is a substandard approach to digital. iBiquity works great on conventional FM-VHF carriers, but there's actually room for dozens of digital radio stations on one carrier.

Peter Blake
Chief Executive Officer
KY Media Group
Toronto

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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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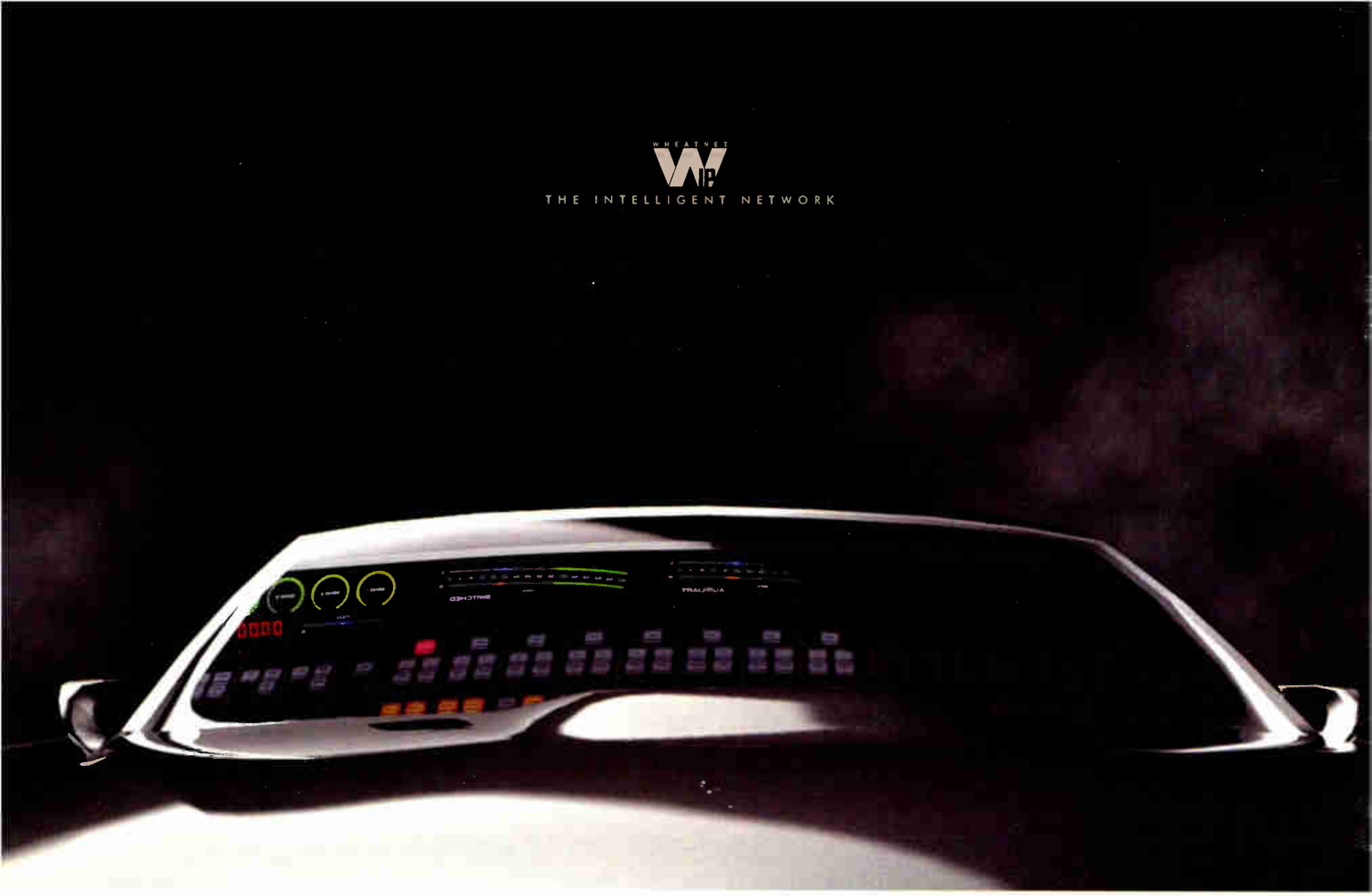

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