RDS AND DATA TOOLS — Buyer's Guide, Inside

NewBay Media

RADIOWORLD

MARCH 9, 2011 | The News Source for Radio Managers and Engineers | $2.50 | RADIOWORLD.COM

INSIDE

NEWS & ENGINEERING

- When it comes to alerting, Washington state's Don Miller knows the drill. — **Page 4**
- We try out three new Internet radios from Pure. — **Page 16**

OPINION

- How to grow new engineers. — **Page 37**
- Planning a new tower? Clarence Beverage wants to remind you about something. — **Page 38**

Preparation Is Under Way For First National EAS Test

Second Round of Alaska Results Are Sifted; CAP Compliance Process Continues

BY RANDY J. STINE

WASHINGTON — Someday soon, probably this fall, President Obama will speak into a microphone; his words will leave Washington and be transmitted across the country via the legacy Emergency Alert System in the first-ever national test of EAS.

Radio stations and their equipment will forward the president's message; then stations will have 45 days to report how the process went.

The broadcast industry is beginning to learn how a national test of EAS will work. No national test of EAS or its predecessors Conelrad or EBS has ever been performed, even though the national alerting system dates to 1951.

The Federal Communications Commission laid out initial plans in February in an order amending Part 11 rules to allow for the test.

These developments come as authorities evaluate a January test in Alaska that was essentially a statewide trial run for a national-level Emergency Activation Notification. It was the second such test in a year; initial reports indicate the system there has improved

(continued on page 6)

QSLs ARE A PORTAL TO THE PAST

Page 22

Digital Radio's Future Murky in Latin America

What Interest There Is Seems Oriented Towards HD Radio And DRM

BY JORGE J. BASILAGO

BUENOS AIRES, ARGENTINA — More than 20 years after the emergence of digital radio, its fate in Latin America remains uncertain. Most countries of this region have not demonstrated a preference as to which system to adopt. At the same time, digital's progress in some countries has been slow, though technology studies and trial broadcasts have been going on since the mid-1990s.

"The discussion on digital radio is spreading throughout Latin American countries, but the obstacle blocking the implementation and subsequent transition to this technology continues to be more economical than technological," said Pedro González Castellanos, a research engineer for the National Institute of Metrology, Normalization and Industrial Quality (INMETRO) of Brazil.

UNDECIDED

However, regional decision-making about radio digitalization remains limited. The leading countries in Latin America have still not chosen systems

(continued on page 8)

WHEATNET IP

E-1 IS PURE GENIUS!

COOL STUFF AWARD WORLD 2010

PICK HIT Radio

The compact E-1 Control Surface Console and associated ip88cb Console Audio Blade provide all the networked control, mixing, and I/O needed for small to mid-sized studios at a price comparable to similar sized standalone analog consoles. The E-1 features an integrated LCD Monitor for metering and control, a streamlined user interface with password protected access to complex functions via LCD display and touchpad, and 4 Main Mix busses as well as Control Room and Studio Monitor outputs with selectable sources from the audio network. Complex Mix Minus setups are made simple thanks to per channel Mix Minus outputs with selectable reference mix and talkback interrupt. You also get auto switching between off line Mix and on line Mix Minus per channel. The E-1 features 99 show presets and a programmable per-channel A-B Source/Select switch which emulates traditional broadcast consoles. Of course the E-1 will work just fine with Wheatstone TDM products, too! Completely made in the USA and available TODAY!

E-1 CONTROL SURFACE CONSOLE

- **Digital Control Surface in new compact frame**
- **Integrated LCD Monitor for metering and control**
- **Monitor / Channel Display area is angled for better ergonomics and display view**
- **Streamlined user interface with password protected access to complex functions via LCD display and touchpad**
- **4 Main Mix Busses**
- **Control Room and Studio Monitor Outputs with selectable sources from Audio Network**
- **Per Channel Mix Minus Output with Selectable Reference Mix and Talkback Interrupt. Complex Mix Minus setups made simple.**
- **Auto Switching between Off Line Mix and On Line Mix Minus per channel**
- **99 Show Presets**
- **Incredible new price!**

With the brand new ip88cb Console Audio Blade, a complete standalone/IP-Networkable Wheatstone console is well within the reach of any studio. And with the E-1's integrated LCD monitor, all functions are immediately viewable and editable with no additional hardware needed.

Wheatstone

AUDIO NETWORKING–SIMPLY EVOLVED

phone 1.252.638-7000 | www.wheatstone.com | sales@wheatstone.com

Selected content from Radio World's "The Leslie Report" by News Editor/Washington Bureau Chief Leslie Stimson.

'FRANKEN FM' SITUATION HEATS UP

NPR faces a veritable army of LPTV supporters in its quest to rid the FM band of so-called "Franken FMs," those low-power television stations operating as pseudo radio stations on 87.9 MHz. NPR wants the FCC to address the issue now rather than waiting for the elimination of analog LPTV service to solve it.

Comments to MB Docket 03-185 were due in late January. The FCC sought comment on adopting a cut-off date by which all Class A, LPTV and TV translators must transition to digital operations sometime in 2012.

There was some support for an early date from Entravision as well as PBS, the American Association of Public Television Stations and CPB; but most of the broadcast comments are from LPTV operators asking for more time, saying that a 2012 transition from analog to digital operations is too soon.

It is a gross waste of a public resource to use 6 MHz of radiofrequency spectrum to provide an ersatz FM radio service.

– NPR, in comments filed with the FCC

'ERSATZ'

NPR says the LPTV analog shutoff should happen as soon as possible and also that the FCC should make clear that LPTVs operating on Channel 6, providing a mostly FM radio service, do not serve the public interest. NPR says "it is a gross waste of a public resource to use 6 MHz of radiofrequency spectrum to provide an ersatz FM radio service." It states that many of these "rogue FM radio stations" cause harmful interference to licensed FMs.

It cited examples such as Venture Technologies Group, licensee of KSFV(LP), Los Angeles, which it says has leased the station to Hombre Nuevo; the latter uses the station to broadcast "Guadeloupe Radio 87.7 FM." Similarly, Syncom Media Group, licensee of KXDP(LP), Denver, has leased the station to Front Range Sports Network, which uses the station to broadcast "87.7 The Ticket," according to NPR, which adds: "Neither of these operations make any pretense of providing a television service, and they are far from unique."

"The commission's technical rules governing LPTV were designed for reception of the service by analog television receivers, not to permit an audio service comparable to those offered by FM radio stations and aimed for reception by FM radio receivers," it stated.

"To attempt compatibility with FM radio receivers, these ersatz FM radio stations tend to circumvent the technical rules governing stereo pilot tone frequency, audio modulation levels, aural carrier frequency and maximum aural power limits in an effort to extend the reach of the station's audio signal and to be comparable to regular FM broadcasting. Furthermore, some LPTV stations are not even operating visual signals, in clear violation of the commission's rules."

'SPECIOUS'

The broadcaster credits the FCC with acting on some of the violations of its technical rules, but says the agency needs to enforce the rules vigorously, "particularly when an LPTV station is causing interference to adjacent NCE FM service."

As you can imagine, the named LPTVs took exception to being called "rogue" FMs that cause harmful interference, and they shot back.

Venture Technologies Group, which operates Spanish "Guadeloupe Radio 87.7" KSFV(LP), Los Angeles and "87.7 Chicago's Smooth Jazz" WLFM(LP), Chicago, says that NPR had "hurled specious and misleading accusations" against Venture and LPTVs that operate on Channel 6. Venture sought to refute NPRs statements and reported that "there is nothing unseemly about a television station that broadcasts audio services."

Venture opposes a hard transition date, arguing that, in some cases, "low-power analog operations are the most efficient, market-driven use of TV spectrum." It's unclear, it continued, whether any spectrum will be reserved for LPTV following implementation of spectrum givebacks and/or repacking to implement the national broadband plan. Until LPTV operators have information about their continued viability, it said, the commission should not impose a digital transition deadline.

WLFM(LP), Chicago, said it "provides an important public service"

(continued on page 5)

His State Hears Alerts, Loud and Clear

Don Miller Helps Washington Get a Head Start in Implementing CAP

FROM THE EDITOR

Paul McLane

Don Miller works in emergency management for the state of Washington. He well remembers a particular day when the importance of his job struck home.

"California called us: 'We've got someone heading up I-5. We think he's in the Tacoma area.' So we put out an Amber Alert."

A state employee in a Department of Transportation truck heard the alert and realized he was in traffic right behind the abductor's vehicle — just 20 miles from the Canadian border.

"They got him, and they got him quick," Miller recounted. "Washington State Police were screaming on the phone, 'We got him! We got him!'"

Miller's job as telecommunications and warning systems manager for the Washington Military Department means he spends much of his time in a thicket of bureaucratic letters: IPAWS and PPW, FEMA and EAS, SECC and CAP. But he knows that these eye-glazing acronyms affect actual people.

"I've been with state emergency management for 20 years," he told me. "We've had a lot of challenges — earthquakes, a 6.8, hundreds of millions of dollars in damage; floods, fires, tornadoes, ice storms, wind storms — the whole gamut. I have 50 sirens along the coast, up to 80 planned; we have 20 in eastern Washington for a chemical stockpile, automatic ring-down circuits, radio systems around the state." The job, he said, is very rewarding.

Miller, ham sign KE7UUK, is a retired U.S. Army telecommunications warrant officer with a degree in accounting, a manager who still pulls his own cable. He co-chairs the State Emergency Communications Committee with Clay Freinwald, a past recipient of Radio World's Excellence in Engineering Award.

Miller and Washington state also are leaders in efforts to improve the nation's alerting infrastructure. He was on the board of the Partnership for Public Warning, which developed the Common Alerting Protocol and promoted its adoption. Washington participated in a Federal Emergency Management Agency pilot project of CAP in 2004, which helped influence the national plan now being implemented.

NO STATIC AT ALL

The state decided early that its own alerting system, relying on analog radio links, was insufficient. Static and noise on EAS alerts had long been a concern. If the public couldn't understand an alert, what good was the message?

After one Amber Alert with particularly poor audio quality, Miller and others set out to clean up the system. They secured a quarter of a million dollars to buy hardware for 78 EAS gateway broadcasters in Washington's 17 emergency management regions. Some 220 other stations receive alerts relayed by those 78. The new hardware can receive digital alerts and recorded files via the Internet.

"Our governor and our Domestic Executive Group made this project a funding priority during good fiscal times because we want to do everything in our powers to protect our vulnerable children from predators."

This was a state project, though in Washington most alerts are issued by counties. County-level activations via CAP went live in November. All 39 counties now can access a secure website to generate alerts. That site, operated by contractor MyStateUSA, sends the alerts to an interface box on the state relay network, which passes them along to the broadcast chain. Station boxes then are programmed to relay or ignore alerts depending on the type of alert.

Miller himself programmed all of the new Sage Alerting Systems boxes bought by the state. "We now have 78 CAP boxes at all LP1/2 stations and all state-owned college radio stations. All LP1/2 stations are now receiving CAP alerts directly from MyStateUSA via polling or static IP addresses. Those LP1/2 stations are still monitored by all other stations in Washington per the monitoring assignments in the state plan."

The resulting audio to listeners, Miller said, is superb; and he says the performance improvement was only possible by moving to CAP. "We've gotten Amber Alerts that were crystal-clear in places where the radio signals had made it impossible to have any alerts.

"I especially like the female text-to-speech engine that is used — clear audio, sent with the authority and urgency that only a female voice can impart to the listening audience, especially to the male members of our society." He also likes that he can see all alerts sent by any activation point in the state on one log.

"CAP is now the primary tool for sending EAS alerts in Washington state; and the old radio-based system is the backup. Most broadcasters like the new system. What's not to like about clear audio? Broadcasters know that they will now receive an alert with crystal-clear audio that they can relay to the public."

> **We want to** do everything in our powers to protect our vulnerable children from predators.
>
> – Don Miller

WORK ONGOING

I asked Miller for lessons about CAP that might benefit other managers.

"I would recommend that other states start distribution with their LP1 and LP2 stations. Get those on board; those are usually large and powerful stations. Also, I would not recommend using static IPs for EAS. Make sure every box you have polls the server. Static IP addresses change; you may send an alert and it doesn't get to that box."

But, he points out, each state may be

(continued on page 5)

THIS ISSUE

MARCH 9, 2011

NEWS
Preparation is Under Way for First National EAS Test 1
Digital Radio's Future Murky in Latin America 1
'Franken FM' Situation Heats Up 3
His State Hears Alerts, Loud and Clear 4
PTFP Grant Applications Due March 17 10
News Roundup 12

FEATURES
Workbench: Prepare for the Spring Thaw. 14
A Step Closer to the Internet Radio Ideal 16
Marketplace 18
People News 19
QSLs Are a Portal to the Past 22

BUYER'S GUIDE
CKUA Is All About the Data 26
BW RBRX1 Proves to Be All-In-One Box 29
Audemat Helps With Alert Study 30
Espace Musique Extends RBDS Network 32

OPINION
Reader's Forum 36
School Program Trains Broadcast Engineers 37
FCC Rules Affect Your Tower Plan 38

WASHINGTON

(continued from page 4)

structured differently, so it's difficult to make sweeping recommendations.

"In North Carolina, my understanding is that they have one activation point. Other states may be like us; we're 'home rule,' all 39 counties have the responsibility to warn their public, or they call us and ask us to do it for them. Other states may have other legal parameters." He told me he'd be happy to talk with any state emergency official or broadcaster who has questions.

Meanwhile his CAP-related work is not done. Washington must redo its state plan and monitoring assignments to reflect the new system and make sure every CAP box receives both the new CAP and the old analog signals. Also, final parameters from the federal government — for unsettled matters like the "governor's must-carry" message — might require tweaks to the installed gear; but because the new hardware is Flash-compatible, Miller says it can be updated easily.

Further, another 220 or so broadcasters must still buy equipment to comply with the federal CAP-compliance deadline later this year. While those purchases will not be state-funded, Miller is providing advice and assistance to any stations that ask. He can help with programming, explain the activation sequence, show how 911 dispatch centers activate alerts and explain that an alert can be pushed to the station's EAS box via IP or pulled from a secure server.

Relations between the state's emergency officials and broadcasters, he said, are excellent.

"I just did a briefing for the SBE Seattle a couple weeks ago; we had about 36 engineers. I went over the entire process of how we're migrating from the old analog system into the new CAP digital world for alerting. There were a lot of positive comments; and they really like the new audio on it. Now they're not going to get phone calls asking, 'What did you send over the air?' That's what the public deserves, to be able to know what to do in times of disasters."

He returned to the point that alerting affects real people. Miller is particularly passionate about the safety of children. He wears a lanyard around his neck that promotes *www.missingkids.com*. He reminds himself that the state's first Amber Alert was issued for Sofia Juarez, who was abducted at age 3 and still hasn't been found.

"We don't want anyone abducting our children, we have seen too much of it in the past."

You can read Washington state's Amber plan at www.wsp.wa.gov/crime/docs/amber/amber_plan.pdf.

Comment on this or any article. Write to radioworld@nbmedia.com.

'FRANKEN FM'

(continued from page 3)

by operating on analog Channel 6, "to provide radio audiences with an additional aural service" and these kinds of LPTVs can provide niche programming in a crowded radio market like Chicago. WLFM points to an audience of "more than 600,000 weekly." WLFM says such LPTV broadcasters should be able to choose between operating in analog or digital and urged the FCC not to set a hard transition deadline at all.

That's similar to the position of Island Broadcasting Co., licensee of WNYZ(LP), New York, which says of its four total LP TV stations, WNYZ has remained analog because "it provides a vital programming service to minority, non-English-speaking audiences in New York City." Island believes even a 2015 date is too soon.

Entravision supports an early 2012 analog cut-off and urged the FCC to adopt "specific measures to restrict LPDTV spectrum access to capable, committed broadcasters" while PBS, the Association of Public Television Stations and CPB support a Dec. 31, 2013 analog cut-off.

Nick Leggett, an early LPFM supporter who also supports the concept of low-power television, says most LPTV station viewers have modest incomes and live in poor areas in mountainous terrain not served well by high-power television or radio. Imposing a 2012 shutoff would impose a burden on these community LPTV stations and force many of them to shut down, he told the FCC. He supports a 2015 date.

Engineering consultancy Hatfield & Dawson says 2012 is too soon but agrees a hard digital conversion date is necessary for many licensees "either as a motivator or to facilitate the budgeting/fundraising process for conversion." The firm suggests a summer date of August 2014 to "facilitate last-minute trips to high-elevation transmitter sites, some of which can be snow-covered, even in June."

This should be interesting. As some at the commission have expressed it to me, LPTVs on Channel 6 are taking an advantage of a loophole; while not technically in violation, they're certainly violating the spirit of the agency's LPTV rules.

Whether that translates to quick action to change the "Franken" situation remains to be seen.

EAS

(continued from page 1)

since the first test revealed a few trouble spots, according to people familiar with the results.

This is in anticipation of a true national EAS test as well as the separate but related rollout of Common Alerting Protocol and other new alerting technologies that comprise "next-generation" EAS.

The deadline for all EAS participants to implement CAP-EAS technology is Sept. 30, 2011. Radio stations must be able to receive and decode Common Alerting Protocol v1.2 messages by that date to be in compliance. CAP is an XML-based data format that can be used by local emergency managers to communicate with the public via various alerting technologies.

The FCC's February order says a nationwide activation of EAS will take place later this year but did not give more specifics. It indicated that the test need not wait until the CAP compliance deadline, leaving open the possibility of a national test earlier, perhaps in summer; but Damon Penn, assistant administrator of the National Continuity Programs Directorate for the Federal Emergency Management Agency, told an EAS webinar audience in February the agency aims to conduct the test in the fall. The FCC has promised broadcasters a two-month warning.

As part of the rollout for a national test, FEMA, the FCC and the National Weather Service plan a public education campaign involving workshops and regional outreach. The information, which will include radio and TV public service announcements, targets consumers in general, and specifically people with disabilities and first responders, to help ensure the public is aware of the national test and the benefits of alerts.

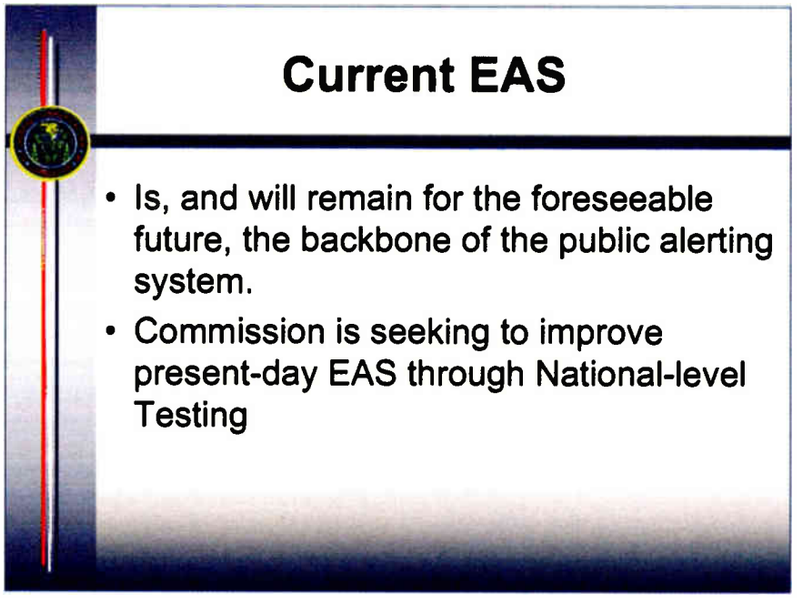
With the discussion of CAP and next-gen EAS in general, some broadcast EAS participants have worried that their role in the nation's alerting system eventually will be abandoned. FCC officials repeatedly have said that radio and TV will remain the backbone of EAS. National Association of Broadcasters President/CEO Gordon Smith recently echoed that point.

ALASKAN QUESTIONS

When a national test of EAS begins, it will include an Emergency Alert Notification or EAN, the live event code for presidential alerts. All EAS participants will be included; broadcasters then must submit test-related data to the FCC within 45 days, via a mechanism yet to be defined.

EAS already is subjected to weekly and monthly tests in 550 local EAS areas, tests familiar to broadcasters and listeners. But the commission fears such tests do not expose vulnerabilities or gaps in nationwide coverage.

Officials viewed the Alaska tests as training for a nationwide trial. An EAN was issued by the FEMA Operations Center in Washington on Jan. 26 and sent to radio, television and cable operators across that state.



FCC Public Safety & Homeland Security Bureau

Jamie Barnett, chief of the FCC's Public Safety & Homeland Security Bureau, gave an overview of the FCC's EAS progress in an online seminar.

A FEMA official said it does not consider the exercise "a pass/fail test," rather one that allows it to establish, assess and validate a baseline for its national-level EAS test and future testing.

While the Alaska test was of the legacy EAS system, FEMA officials have said the agency plans to include CAP and next-generation alerting technologies in future tests and exercises.

"Gaining knowledge was the goal. There were several issues from the 2010 test that were mitigated this time," said Dennis Bookey, co-chair of Alaska's State Emergency Communications Committee. The second test addressed concerns such as low audio levels and relay networks not forwarding the message correctly, he said. DASDEC PC-based EAS encoder/decoders malfunctioned at several radio stations because of a programming malfunction within the units, as we reported at the time. In addition, one of the state's largest cable providers failed to receive the EAN message initially. Several radio and television stations also allowed the test message to pass through twice because of a programming error in their EAS equipment.

The "daisy-chain" nature of the EAS system is a common point of criticism; and the FCC in its order acknowledged that the design is susceptible to single-point failures.

Bookey said there were some "singular station issues" in the second test, mostly in small communities. However, Bryan Fisher, chief of operations for the Alaska Division of Homeland Security and Emergency Management, said, "No new technical difficulties came to light" in the test. "Minor localized malfunctions occurred, as happens in all of our live code testing."

Representatives of some equipment manufacturers were on hand in Alaska to witness the trial. "Most participated in coordination with FEMA," Fisher said.

"With the technical challenges with a system like EAS and the length of time between our live tests, we are satisfied our mitigation strategies and efforts paid off."

Some observers wonder whether using Alaska as a proving ground for EAS is adequate.

"I believe that preparing Alaska for a test is one thing. Preparing the nation for a test calls for much more thought and discussion," said Richard Rudman, vice chair of the California State Emergency Communications Committee.

For one thing, Rudman said, some EAS experts have asked the FCC for a way to test the presidential use without implementing the actual code the president will use if a real EAN is ever issued as a safety precaution.

GEAR QUESTIONS

Rudman also hopes FEMA will give more attention to making sure the origination mechanics of live code tests and real EANs will function properly.

The FCC concludes in its report and order that EAN should be used for the initial national trial but that alternatives may be considered for future trials, including a code called NPT, or National Periodic Test.

In addition to the national test plans, FEMA is moving forward with procedures to determine which EAS encoder/decoders are CAP-compliant. It has developed a method of showing that a device can accept and process messages as specified by CAP v1.2 protocol in the Integrated Public Alert and Warning System profile.

It will not specifically certify EAS gear, but FEMA will post test results to a database as part of the IPAWS Conformity Assessment Program.

Darryl Parker, senior vice president of manufacturer TFT Inc., said, "This testing will allow vendors to include a Supplier's Declaration of Conformity in a product description on the Responders Knowledge Base website."

Harold Price, spokesman for manufacturer Sage Alerting Systems, said "FEMA has made it clear that they are not approving or certifying devices. [FEMA] is only determining if the equipment is capable of processing CAP messages." Price believes FEMA is not officially certifying the equipment because it does not have the authority to do so as the FCC does.

Broadcasters and other EAS equipment users can view compliance test results at *www.rkb.us*. FEMA hopes to post the first results in March.

The FEMA process is not the only testing to which EAS gear must be submitted. Equipment makers also must pass through an FCC compliance process. The details and timing for that process have yet to be made clear.

Gary Timm, broadcast chair of the Wisconsin EAS Committee, said the most important step for broadcasters at present is for the FCC to release a notice of proposed rulemaking about EAS rule changes and get its rulemaking process underway.

"The CAP clock is ticking, and Sept. 30 will be here before you know it. The FCC has already hinted that the new rules will address equipment certification," Timm said.

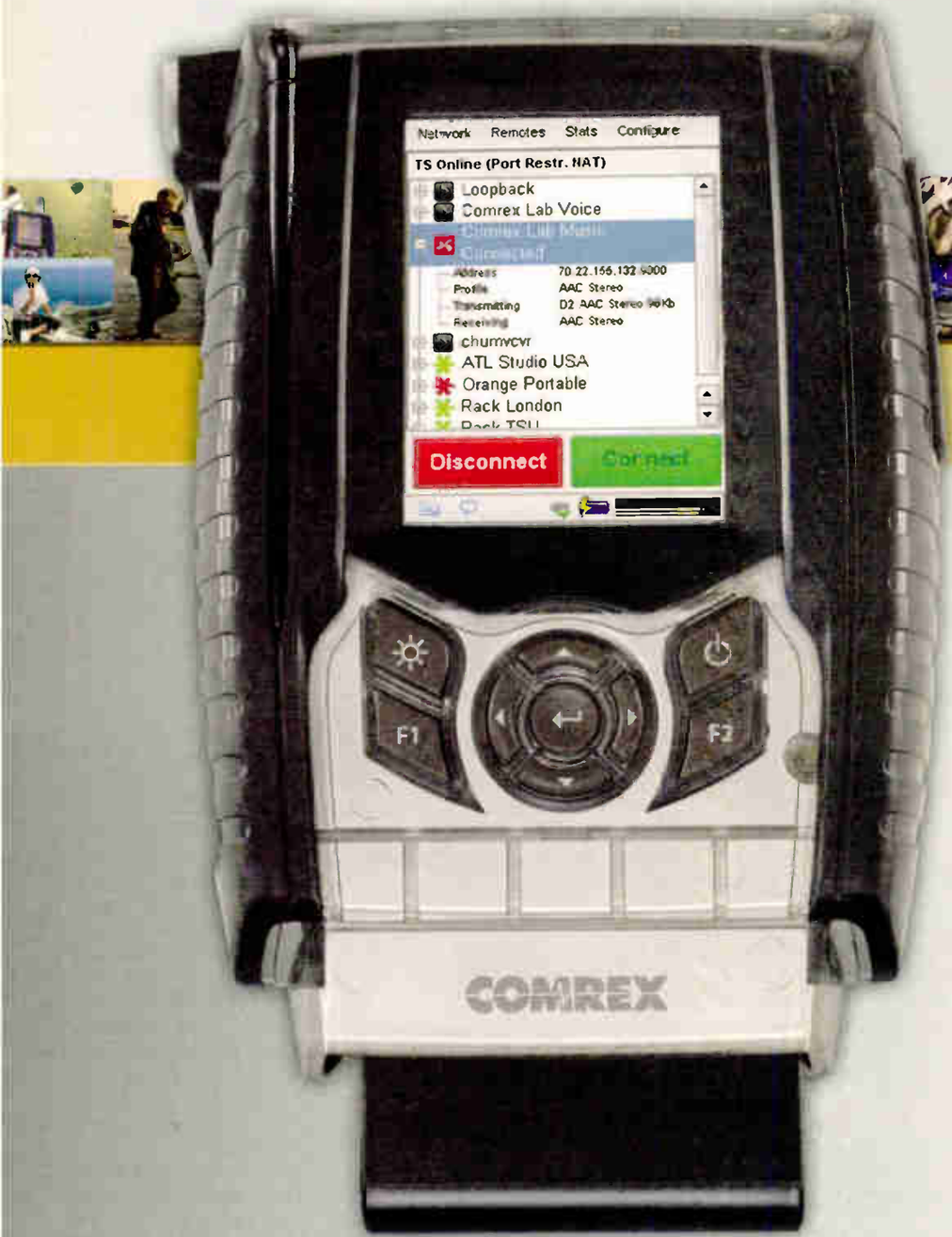
Timm also said questions remain about the planned national EAS test. For instance, it's unclear if the experiment will be conducted in Puerto Rico and other U.S. territories. Also the FCC has yet to determine if stations with non-participating national status would be required to sign off the air as they would in a real emergency, Timm said.

And yet to be determined is whether the FCC will use the Emergency Action Termination, or EAT, as part of the test. Where the Emergency Action Notification is a notice to EAS participants and the public that activates EAS for a national emergency, EAT means the emergency is over and the EAS is terminated.

Comment on this or any story. E-mail radioworld@nbmedia.com *with "Letter to the Editor" in the subject line.*

comrex.com

The World's Most Popular IP Codec...



...Is Now Even Better!

Introducing

ACCESS 2USB

Get the story wherever you are with more ACCESS than ever before. ACCESS 2USB now gives you two USB ports, support for select 4G Wireless USB modems and now includes MPEG-4 AAC Coding Algorithms standard! The best just keeps getting better and better!

IP • 3G • Wi Fi • 4G • BGAN / VSAT • PSTN • DSL

50 years

COMREX

ESTABLISHED 1961

19 Pine Road, Devens, MA 01434 USA Tel: 978-784-1776 • Fax: 978-784-1717 • Toll Free: 800-237-1776 • e-mail: info@comrex.com

DIGITAL

(continued from page 1)

or set dates for doing so.

A qualified exception is Mexico — the second-largest economy in the region and 11th largest in the world — which allows use of AM and FM HD Radio within about 200 miles of its northern border. The Mexican government is now considering extending optional commercial radio use of HD Radio to the entire country; some broadcasters support the move while various academic, social and community sectors are critical.

Meanwhile, broadcasters and the governments in Brazil and Argentina remain hopeful of making a decision someday; but those countries have seen different degrees of activity.

In Brazil, as Radio World has reported, a work group coordinated by the Ministry of Communications has been carrying out field research in various cities on the iBiquity Digital HD Radio and Digital Radio Mondiale systems.

The tests are for both AM and FM. HD Radio tests started in 2005; DRM tests began in 2007.

This commission, composed of researchers from the National Telecommunications Agency and INMETRO, is working on the final draft of a report; there is no set date for its presentation. Brazil will be watched closely because it is the world's seventh-largest economy in terms of GDP, and the second-largest in the Americas behind the United States.

In Argentina, AM HD Radio tests sponsored by the Association of Private Argentine Broadcasters, ARPA, were carried out with HD Radio in 2004. But the government currently does not include radio digitalization among its priorities; it is focused on its TV digital transition. The International Telecommunications Union is encouraging all nations to complete their migration to digital television by year-end 2015.

One source said another complicating factor is the presence of thousands of unlicensed broadcasters operating on uncoordinated frequencies in Argentina; it would be difficult to make any in-band digital radio technology work reliably on the existing AM and FM bands.

Luis Lázzaro, general coordinator for the country's Federal Authority of Audiovisual Communication Services, said, "Unfortunately, current conditions do not favor more rapid advances; but we are very aware of all scientific research and techniques taking place at the national universities and being carried out in the MERCOSUR," which is the Southern Common Market, a trade and political pact among Brazil, Argentina, Paraguay and Uruguay.

STANDARDIZATION

Most countries in Latin America use the AM and FM bands and modulation schemes found in the United States, though channel separations differ by country. It's difficult to state a precise total number of radio stations for the region.

Elsewhere in Latin America and the Caribbean, Panama, Jamaica and the U.S. territory of Puerto Rico have opted to use HD Radio as a digital radio technology. Among other countries, the Dominican Republic is trialing HD Radio. Several other nations are analyzing the situation or plan to begin such a process. The rest have done little to nothing with digital radio.

Some observers feel broad standardization is desirable.

"It is very important for the entire region to adopt the same system, primarily to generate the possibility of producing equipment on a regional level in order to keep costs down," said Luis Pardo Sainz, president of the Association of Radio Broadcasters of Chile, which is authorized by that government to experiment with HD Radio in 2011.

In Peru, while acknowledging that experimentation with digital radio has not yet been carried out, Alexander Chiu Werner, who is responsible for communications and imagery for the Advisory Council on Radio and Television (CONCORTV), agreed with Pardo.

"Strategic decisions on the future of information and communication technologies in our countries must be developed and agreed upon within existing regional transnational pacts — CAN, MERCOSUR, UNASUR — in order to promote the integration and facilitate the creation of a common market," he said. CAN consists of countries that border the Andes mountains; UNASUR is the Union of South American Nations.

Nonetheless, few ideas have advanced beyond noble aspirations.

"Some joint projects have been carried out, for example with AMARC [the World Association of Community Radio Broadcasters] but they have not had the desired success," said Patricia Maldonado, professor and researcher with the Professional Interdisciplinary Unit in Engineering and Advanced Technologies at the National Polytechnic Institute of Mexico.

DIVERSE REASONS

Economic and technical considerations are behind many of the doubts about digital radio in Latin America.

The cost to transition and the limited possibilities for broadcasters to share transmission equipment and expenses — a benefit afforded by the European Eureka-147 DAB and Japanese ISDB-Tsb systems, for example — give pause to smaller community and alternative broadcasters. Those considerations also oblige governments to use caution in order to avoid inequalities regarding access to new technologies.

Additional factors are the cost of receivers and the more limited buying power of Latin American audiences.

"If digital radio has not found a market in Canada, with a population of 200 million, then what chance do we have in Argentina with a population of only 40 million?" wondered Juan Fernández, director of Radio Mi País, an AM station on 1170 kHz.

"Even in developed countries, the adoption of digital format by listeners has been slow," added Pardo. He considers HD Radio the best option because stations can use existing AM and FM bands to implement digital technology.

On the technical side, sentiment generally seems to favor an in-band approach that would allow a gradual shift, as well as an open-standards approach to encourage broader participation in future development.

For their part, Argentine engineers Norberto Solís and Jorge Bergalli of the ARPA Technical Committee feel that any digital system should include free service to the consumer.

Meanwhile, community broadcast organizations have another perspective. For them, the technical choice of system and the levels of necessary investment are secondary considerations to another aspect of going digital: the opportunity to bring greater diversity of voices to the spectrum.

"The technologies are not so pivotal but rather the social implications within the general framework of communication rights," Pablo Vannini stated in an article. He is a member of the research group for the program Ritmo Sur, a joint initiative of AMARC and the Association of Latin American Radiophonic Education.

LATIN AMERICAN INTEREST

Consequently, Latin American interest seems to be focused on two systems, HD Radio and Digital Radio Mondiale, which meet several of the goals of the various interest groups.

"Steps being taken in Mexico — such as enabling certain AM stations to offer their content on FM — are precisely intended for a future in which there will be more possibilities to adopt the U.S. system without having to modify the current radiophonic structure" and, likewise, its participants, said Maldonado.

For his part, Solís did not deny the possible implementation of a Brazilian project that emerged from the communications subgroup of the MERCOSUR. According to Solís, the idea presented by the Brazilian authorities implies establishing "a common system of digital radio," based on either HD Radio or ISDB-Tsb, if this fulfills the necessary technical requirements.

ISDB-Tsb is part of the Japanese ISDB-T terrestrial digital broadcasting system and supports audio broadcasts using encoded transmission of OFDM signals. In Japan, ISDB-Tsb is used for digital radio, ISDB-T for television services. For digital television in South America, most nations have adopted ISDB-Tb, a variant of ISDB-T developed originally for Brazil.

An additional question for Brazil is the digitization of tropical band short-

(continued on page 10)

Comes with the most detailed manual you'll never need.

Everyone knows how powerful, flexible and cost-effective IP-Audio is. But configuring the network switch could be time consuming, even intimidating. Until now. Axia's new PowerStation for Element 2.0 consoles is the first IP console system with built-in Gigabit network switch, for easy expansion and connection to other studios. Audio, logic, DSP engine, and power supply are built in, too — plug in audio and power, and you're ready for air. Our proven record of reliability – over 2,000 consoles on-air every day – makes Axia the risk-free choice. So you can spend your time making great radio (not wading through manuals).

AXIA
A TELOS COMPANY

ax.aaudio.com

Element 2.0 with PowerStation. The fastest, easiest IP Audio ever.

PTFP Grant Applications Due March 17

BY LESLIE STIMSON

WASHINGTON — Noncommercial broadcasters have until March 17 to submit applications for Public Telecommunications Facilities Program grants from the National Telecommunications Information Agency.

PTFP doesn't yet have a budget for FY 2011 and officials won't know how many dollars are requested by stations until after the deadline.

For fiscal 2010, applicants sought $39.9 million; the program funded about $20.5 million. Although the program only had $18 million for grants in FY 2010, it awarded the additional sums through money recovered from grants that finished under budget, according to its website.

The PTFP funds the construction of new public radio and television stations and new non-broadcast public telecommunications facilities as well as digital conversion and equipment replacement at pubcast stations.

NTIA gives priority to projects that will originate the first local public radio service to a geographic area, then to first public radio signal projects that are repeaters or translators of other public radio stations. It also funds equipment for power increases such as a new transmitter or antenna.

For a station's transition to HD Radio, NTIA anticipates funding digital-upgradable transmitters for new facilities. Grant recipients will be able to add, at their own expense, HD Radio exciters and additional power output modules as needed to PTFP-funded digital-upgradable transmitters.

Applicants requesting funding of full HD Radio transmitters must include a plan demonstrating readiness to begin digital broadcasting after receiving the PTFP funding. Applicants must also detail the proposed type of analog/digital signal combining and whether the station plans to use program-associated data or multicasting.

CHANGES FOR 2011

New this year: PTFP will not accept equipment applications when funds for that equipment also are requested from other federally-funded sources such as the Corporation for Public Broadcasting. It's up to broadcasters to make sure their equipment "wish lists" don't overlap, according to NTIA.

PTFP has changed some priorities in its equipment replacement grants. For many years, NTIA has funded projects for digital studio-transmitter links and digital audio production equipment to help public radio stations as they prepare for conversion to digital technologies. NTIA began funding IBOC-compatible transmission equipment during the 2003 grant round and created a category, "Subpriority C," to process digital conversion applications.

In recent years, the number of those applications has decreased significantly; in fiscal 2010, such applications represented less than 1 percent of federal funds requested, according to NTIA. It now will consider the replacement of analog radio equipment with digital as normal equipment replacement within the Priority 2 or 4A sections of the PTFP rules and has dropped Subpriority C.

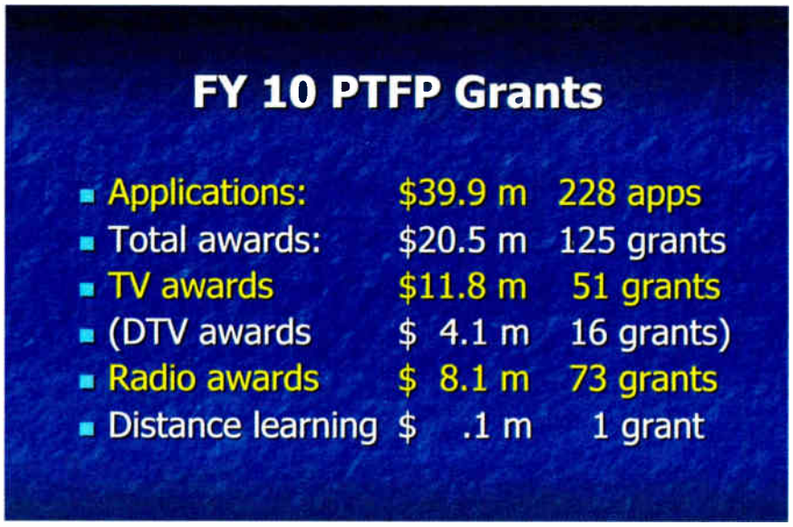
NTIA also may fund digital radio equipment under Priority 4B, non-urgent replacement, and Priority 5, auxiliary studios and augmentation.

Stations also may apply for grants to fund standby power generators and uninterruptible power supplies under certain conditions. But NTIA believes it is premature to fund Common Alerting Protocol equipment for public broadcasting until the FCC clarifies CAP requirements for station participation and, therefore, will not accept applications for such equipment right now.

The matching grant applications due in March are for fiscal 2011. In 2010, NTIA awarded 125 PTFP grants for radio and television. The funding total came to nearly $20.5 million, including 73 radio awards and 51 television awards, plus one distance-learning grant. Radio awards ranged from $11,000 to plan for a new station on the Hualapai Reservation in Peach Springs, Ariz., to approximately $112,000 for KSUT(FM), Ignacio, Colo., to replace an automation system and install a voice-over production room, an emergency generator at the station, generators at two transmission sites, a hot standby for the main STL and air-conditioning for the production studios. KEXP(FM), Seattle received $52,000 so the University of Washington station could install a new HD Radio transmitter and increase HD power. At about $450,000, Northern Community Radio received the highest radio grant, to launch new station KBXE(FM) in Grand Rapids, Minn., including new studios and full origination capabilities.

NTIA outlines on its website the typical radio gear covered in the grants; see *www.ntia.doc.gov/otiahome/ptfp*.

Funding for the FY 2011 grant round relies on congressional approval. PTFP was operating under a Continuing Resolution through March 4.



A summary of last year's funding from an NTIA PFTP webinar.

DIGITAL

(continued from page 8)

wave stations, which are used to cover the vast Amazon basin.

RULE CHANGES

Asked which countries have adopted digtal radio or appear to show the best chance of adoption, iBiquity Digital Director of Business Development for Latin America John Schneider said Brazil has about 30 stations equipped for experimental HD Radio broadcasting.

Schneider agreed that governments of several Latin American countries are in the early stages of exploring the digital radio question and have not shown a preference for any one system.

"Nonetheless it's important to note that no digital radio technology other than the HD Radio system has ever been authorized in Latin America other than a few isolated tests," he said. "Once the larger countries adopt and begin to implement the technology and receiver products begin appearing in those countries, it is likely that other countries will quickly follow the choices of the large countries."

The DRM Consortium did not respond to a similar query.

Outside of the U.S., HD Radio developer iBiquity does not charge license fees directly to broadcasters; international fees are included in the equipment costs, according to the company. Continental Lensa in Santiago, Chile, is the only licensed HD Radio transmitter manufacturer in Latin America.

The DRM Consortium also does not charge license fees directly to broadcasters; instead the fee is charged to the equipment manufacturer and figured in the price of a DRM transmitter, exciter, content server or other equipment. DRM does not list any Latin American transmitter manufacturers on its website.

Discussing digital radio, many observers also talk about the need to reform or revise various regulations in their countries to make space for digital radio.

"It is not absolutely essential, nonetheless some adjustments are necessary because of the new services that will emerge, such as multiprogramming," González said.

Meanwhile, analog radio in Latin American remains. "Obviously we want to modernize and advance, but that does not mean that whatever is not digital is useless," Pardo said. "Digitalization will not take over by decree."

Jorge J. Basilago is a photojournalist and freelance writer who covers media and cultural events from Buenos Aires, Argentina. He may be reached by e-mail to jbasilago@hotmail.com.

Radio World Latin America Editor in Chief Rogelio Ocampo and Radio World News Editor/Washington Bureau Chief Leslie Stimson contributed to this article.

Report-IT Enterprise Revolutionizes Newsgathering for Chum Radio

> **Our experience has been amazing using Report-IT Live Enterprise Edition – it has revolutionized the way we approach live remote broadcasting.**
>
> **Chris Larke, Broadcast Engineer, CHUM Radio Vancouver**

Radio Host Ray Grover uses Report-IT

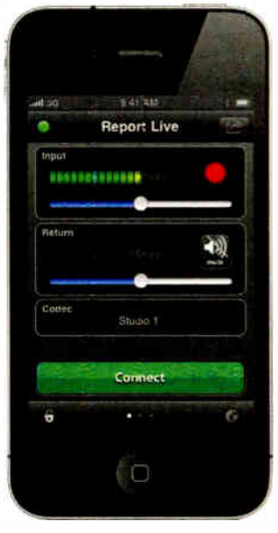
Using Report-IT over wireless 3G networks or Wi-Fi for live remote broadcasts is a breeze and we no longer need to check for ISDN or POTS lines before a broadcast.

Our setup time for remotes has been reduced immensely and our announcers love using a wireless Live IP codec that is small enough to fit into your pocket. We can configure every setting from the studio end and all a reporter or announcer needs to do is open the app on their iPhone and connect at the touch of a single button.

We use Report-IT to broadcast our afternoon show live on-location, as well as sports interviews and reporting. Our sports reporters often use it to file reports via FTP and our producers can get these reports to air long before any other station.

We have a few advertising clients that like to voice their own spots but scheduling the client's time with studio time is often a challenge. The simple solution was to get the client to download the app for free and voice their spot using Report-IT. The quality of the built-in microphone on the iPhone 4 is excellent for this type of voice work and clients can FTP the 20kHz audio back to the studio at the touch of a button!

Chris Larke, Broadcast Engineer, CHUM Radio Vancouver



For a FREE demo call
317-845-8000
or email
sales@tieline.com

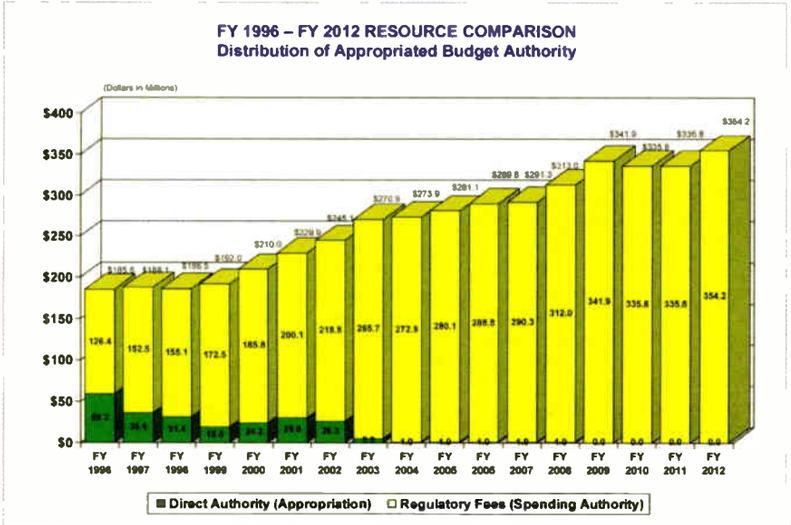
Tieline® TECHNOLOGY

www.tieline.com/report-it

*iPhone and App Store are trademarks and/or registered trademarks of Apple Inc., registered in the U.S. and other countries.

NEWSROUNDUP

FCC BUDGET: President Obama proposed FCC funding of $354.2 million in fiscal year 2012; that would be a 5.6 percent increase of about $18.4 million over the agency's estimated 2011 budget. The commission says the money would help it implement the National Broadband Plan, overhaul its data systems and processes and continue to modernize the agency, among other activities. The commission released a chart, below, showing how regulatory fees it collects offset costs. Regulatory fees were set at $335.8 million in 2010 while the 2011 budget proposes the same; in 2012, according to the 2012 proposal, fees would be $354.2 million. The commission also wants new authority to use "other economic mechanisms, such as fees" as a spectrum management tool, renewing a contentious proposal. It wants to start collecting those new fees in 2011 and gather $4.8 billion through 2021.



FIND THAT PIRATE: Included in the FCC's fiscal 2012 budget request is $350,000 for new direction-finding gear for Enforcement Bureau field offices. Personnel use the portable equipment to identify and resolve interference issues. "As radio technology has evolved including digital, spread spectrum, authorized unlicensed and other emerging technologies, locating interfering signals has increased in complexity. Of particular difficulty is sporadic, intermittent and remote interference, in which use of vehicles or handheld equipment is either not efficient or impractical," said the FCC in the document.

PREC REGISTRATION: Registration has opened for the Public Radio Engineering Conference, to be held April 7-8 at the MGM Grand in Las Vegas in advance of the NAB Show. The Association of Public Radio Engineers is working on the agenda; broad session topics include guidance on the new EAS-CAP rules, updates from NPR Labs on its accessible radio initiatives and details on upgraded ContentDepot receivers due from PRSS later this year. In the meantime, two registration packages are available, including registration for the PREC only, which covers the presentations, meals and "Night Owl" sessions; a second package includes NAB registration, discounted courtesy of NAB and PBS. Sign up at *www.apre.us*.

CBS RADIO NEWS: The network says "Don't wait for breaking news ... let it come to you" with its new iPhone app. The broadcaster says CBS Radio is the only network news radio app to provide the latest breaking news in real time, 24-7. Users downloading the iPhone app from the Apple App Store (at *itunes.apple.com*) can choose topics that most interest them.

NRB LOBBYIST EXITS: Bob Powers left the National Religious Broadcasters after almost 10 years, most recently as its VP of government relations. He was the first person to work full-time as a lobbyist for NRB on Capitol Hill. Powers moved to congressional lobbying firm Aduston Consulting. NRB planned to announce a replacement.

Drops jaws. Not audio.

Broadband Internet is everywhere. Which makes it ideal for live remotes.

Unfortunately, the internet is also notoriously erratic. Even if you're lucky enough to get a good connection, it might deteriorate during your show. So you dial back the bitrate, sacrificing sound quality to play it safe.

There is a better way.

Meet the amazing new Z/IP ONE codec.

Telos and Fraunhofer collaborated to develop a unique coding algorithm that adapts to changing network conditions on-the-fly.

If your connection quality drops, the Z/IP ONE uses error concealment, elastic buffers, and bitrate adjustments to keep audio flowing at maximum quality.

The Z/IP ONE now makes it possible to use the internet for great sounding remotes.

The convenience of the Internet. The sound of Telos.

Telos

AUDIO | NETWORKS
www.telos-systems.com

BROADCAST TELEPHONY

Telos is the trusted World Leader in single-line hybrids and multi-line phone systems.

ZEPHYR IP & ISDN CODECS

With more than 20,000 in daily use around the world, Zephyr is The Best Way to Hear from Everywhere.

STREAMING AUDIO

Hardware and software products for processing, encoding and streaming your audio content.

AUDIO LOGGING

PC Software for archiving and logging all of your stations audio.

A Step Closer to the Internet Radio Ideal

Our Intrepid Author Tries Out a Trio of Pure Wi-Fi Receivers

BY JAMES CARELESS

In a perfect world, Internet radios would access the Web anywhere, seamlessly, just as easily as any AM/FM receiver picks up broadcasts today.

In real life this isn't possible in 2011. Internet radios need Wi-Fi or Ethernet connections to tune to the Web.

INTERNET RADIO

But many manufacturers have been making strides towards the above "Internet radio ideal." Some have done this by designing receivers that mimic conventional AM/FM user interfaces. Others have tried to simplify the setup and access to Wi-Fi hotspots, or ensured that their radios can run on battery power so that they can be somewhat "portable."

Pure has added such features to its FM/Internet radios. Based on three models supplied to me for Radio World review — the Oasis Flow, Evoke Flow and Siesta Flow — its efforts have moved Pure products a step closer to the Internet radio ideal, making them worthwhile purchases. This said, all three have shortcomings.

THREE MODELS

Pure is well-known to U.K. radio listeners. It is a major maker of European-standard Digital Audio Broadcast receivers. The company's first DAB receiver, the Evoke-1, came out in 2002. Since then, Pure has diversified to provide a range of Internet, DAB and FM radios. Today, its products are available in the U.S. through *www.pure.com/us*.

Oasis Flow. 'I consider it the best buy of the bunch.'

The Oasis Flow (about $215 retail) resembles a white loudspeaker with cast aluminum and black trim, outfitted with an FM/Internet clock radio with programmable presets. It comes with an LCD screen plus a mix of hard and "touchscreen" controls.

About the size of a bookcase loudspeaker, Oasis Flow can tune to FM, podcasts and Internet radio (via Pure Radio's tuning site *www.thelounge.com*), and access music files via your home network or input audio from an external music device using its Auxiliary mini-plug port.

(Note: The Ethernet connection requires a Pure Mini USB-Ethernet adaptor to connect to a standard Cat-5 Ethernet plug.)

The Oasis Flow has a rechargeable ChargePak lithium battery built-in, so that you can disconnect from the radio's adaptor and go portable. Pure bills the Oasis Flow as being weatherproof, which is why all of its jacks (including headphone) are protected by rubber seals.

The Evoke Flow (about $195) looks like a stealth version of a standard portable AM/FM receiver.

It has the same features as the Oasis Flow, plus a "snooze" function built into its curved metal carrying handle for delaying its clock radio alarm. It has extra outputs to provide a stereo feed out, or to support a second speaker for stereo playback directly from the radio.

Although it has portable radio capabilities, the Evoke does not come with ChargePak included, nor does it have the ability to accept conventional disposable batteries. The ChargePak is available as an optional accessory for $49.95. This is a strange omission by Pure.

The Siesta Flow (about $95) is a small clock radio that employs the same Pure user interface, albeit with a mix of touchscreen controls and standard clock radio buttons. Its Auxiliary In port is on top of the radio, to make connecting an MP3 player easy. The Siesta also has a USB port for plugging in USB accessories such as reading lights and small fans. It is not a portable unit, nor does it have the other inputs offered by the Oasis and Evoke.

Evoke Flow. 'It looks like a stealth version of a standard portable AM/FM receiver.'

Siesta Flow. 'Too similar to a cheap motel radio for my liking.'

PERFORMANCE

Setting up any of the Pure radios is relatively easy: The system walks you through the process on its LCD screen. Inputting the WEP key for a Wi-Fi network isn't too hard using the receiver's tuning dials and buttons. It was hardest on the Siesta, where it had to be done using a small LCD screen and touchscreen buttons only.

The Pure tuning system uses the "drill-down file format" model found on other Internet radios. On the positive side, I found its system easier to understand than those on other Internet radios.

WORKBENCH

(continued from page 14)

If that wasn't bad enough, they then used gasoline to set the wiring on fire, to separate the plastic insulation from the copper wire. Things got out of hand, and the next thing they knew, the Christmas tree was ignited. Here's the link: *http://tinyurl.com/rwbench1*.

Greg Muir can be reached at *engineering@mt.net*.

Fig. 2 gives us pause to watch our transmitter sites as melting snow and rain arrive in the next couple of months. We've mentioned the WaterBug in past columns. For around $50, this battery-operated sensor can be tied to your remote control system to warn of water ingress. See *www.winland.com*. It's cheap insurance!

John Bisset marked his 40th year in radio in broadcasting recently. He works for Tieline Technology and is a past recipient of the SBE's Educator of the Year Award. Reach him at johnpbisset@gmail.com *or (603) 472-5282. Faxed submissions can be sent to (603) 472-4944.*

Fig. 2: Be alert to possible water damage as snow melts and spring rains arrive.

Submissions for this column are encouraged and qualify for SBE recertification credit.

OMNIA.11 EVERYTHING YOU HEAR IS TRUE.

• Effortless dial dominance • Louder yes, yet always pure & uncompromised • Pop sparkles • Rock really rocks • Country caresses • Hip hop thunders • Voice is natural and intimate • Push it hard and be amazed at how open and clean it remains

Find out more: www.omniaaudio.com

Omnia
A Telos Company

Radio never sleeps. Neither do we. We're here for you, anytime, with free round-the-clock, 24/7 technical support. Call +1-216-622-0247

PURE

(continued from page 16)

On the negative, there is no apparent rhyme or reason to when the radio requires you to use either the knobs/buttons or its changeable touchscreeen controls.

Pure's website The Lounge allows you to set up a custom account and manage your station preferences online, with the results being accessed by your Internet radio. However, I found it just as easy to use the default station menus on the radios.

Sound quality generally is good. The Oasis Flow has the best overall sound, though it could use a bit more treble. The Evoke Flow sounds bright, like any good AM/FM portable. However, the audio on the Siesta Flow clock radio is thin and tinny. For some reason, Pure put this receiver into as small a package as possible, sacrificing room for better speakers and a larger LCD screen (and controls) in the process.

The Pure radios are adept at finding Wi-Fi connections and holding on to them, with minimal apparent signal dropout. The downside is that not everywhere offers Wi-Fi, especially not in the backwoods where you will have to rely on FM. (Pure's decision not to include AM is disappointing. I asked Pure about this. A spokesman replied, "Pure decided not to make its radios AM-compatible, as nearly all AM stations are available via Internet radio. Due to the sound quality achieved via Internet radio, the company did not feel there was a need to offer AM twice.")

ASSESSMENT

Pure Radios are not perfect, but they represent progress towards the Internet radio ideal.

I personally have found myself using the Oasis Flow on a regular basis; I consider it the best buy of the bunch. Audio quality, ruggedness and the fact that it comes with a ChargePak while the Evoke does not all factor into this preference. I can take this radio anywhere in and outside of the house and keep listening to my favorite Internet radio station — or music file from my home server. The sound is good, the interface is relatively intuitive and the signal stays tuned in most of the time.

Based on the Internet radios I have tried to date — and I have tried a lot of them over the years — the Oasis Flow is a good choice; the Evoke Flow would be if it had a ChargePak included. As for the Siesta Flow? It is too similar to a cheap motel radio for my liking. Pure would be wise to go back to the drawing board and make something more akin to a Bose Wave radio, even if it costs more.

James Careless is a long-time contributor to Radio World. He wrote about Jeff Littlejohn and Clear Channel's multiplatform strategy in a recent issue.

MARKETPLACE

BEEFY CAT: Wire/cable maker Gepco has released a series of heavy-duty Cat-5e cable. Aimed at portable and remote Ethernet patching, the CT504HD series has three types. In addition to the basic CT504HD there

is the CT504HDX, with solid 24 AWG conductors rather than stranded conductors. The third variety is the CT4504HDX, a four-channel snake using the HDX cable.

All feature double jackets for durability. The exterior jacket is a thermoplastic elastomer (TPE). Terminations are available in RJ-45 and Neutrik etherCON.

Info: www.gepco.com

HANDY HI-FI: A new app for the Apple mobile device clutch (e.g. iPhone, iPod, iTouch, et al) promises to collect together and stream higher-quality audio streams.

StreamS HiFi Radio by Modulation Index is a combination of aggregator and AAC decoder. It catalogs and provides a listing of AAC- and HE-AAC-streaming outlets, including AM/FM broadcasters.

Modulation Index President Greg Ogonowski (a familiar name via his "other" job at Orban) said, "This gives listeners the best fidelity possible and provides capabilities that are more than competitive to satellite and HD Radio, whether heard on earbuds, auto sound systems or home stereos."

He also noted: "Deployed mobile devices greatly outnumber other digital radios. Moreover, we have found that unlike cellular voice channels, the high-speed data-grade mobile channels used by this service are typically free from dropouts, noise bursts and unexpected disconnections. ... Radio networks are fanatical about the quality of their signal." This professional-grade decoder fits that bill, he said. Price: $4.99.

Info: http://itunes.apple.com

CHIEF OF THE RACK: "Mounts and racks solutions" company Chief Manufacturing is enjoying the fruits of its acquisition of rack specialist Raxxess.

The E1 and S1 Raxxess Series racks now are shipping. The E1 is a fully-assembled rack while the S1 is a buyer-assemble rack. The E1 includes a rear rack rail and integrated tie points as well.

Features of the racks include steel construction, SurgeX surge suppressors and filtered fans.

Chief also announced the RackBuilder on-line rack configuration tool.

Info: www.chiefmfg.com

PEOPLENEWS

Bill Zears, district director of the San Diego office, retired recently from the **Federal Communications Commission** after 37 years. **Jim Lyon** now is the office's acting district director.

A graduate of Bradley University, Zears began with the commission in Washington in the Safety & Special Radio Services Bureau in 1974. He conducted engineering reviews of major public safety applications for two-way land mobile systems and counseled public safety users on FCC application procedures and rule requirements; he represented the commission at land mobile user conferences.

In 1979 he relocated to the Livermore Monitoring station and was in charge of microwave radio services monitoring program for the four-state San Francisco region.

Zears assisted in interference resolution at space shuttle landings at Edwards Air Force Base and White Sands Missile Range. He was a member of FCC teams at the 1984 Democratic and 1996 Republican conventions and the 1984 Los Angeles and 1996 Atlanta Olympics.

He expanded the Engineering Measurements Unit monitoring program in 1985 to include FM, TV and CATV monitoring in the San Francisco region; he represented the FCC at NAB conventions and demonstrated the capabilities of the EMU vehicle. He became senior engineer of Livermore monitoring in 1992, as well as EMU engineer; he built and maintained a direction-finding vehicle and worked on interference cases in California and Nevada. When the Livermore Monitoring station was automated, he relocated to Hayward, Calif., and worked out of the San Francisco office.

As district director in San Diego, starting in 2000, he served on the Mixta committee to resolve interference cases with Mexico and coordinated FCC efforts to inform the public about DTV conversion in the San Diego area.

In other People News:

Ann Marie Cumming

Ann Marie Cumming returned to the **NAB**'s Communications department as vice president of communications. She reports to Dennis Wharton, executive VP of communications. A former staffer with Sen. Patrick Leahy (D-Vt.), she then worked for five years at NAB and was promoted to director of media relations. She has been working more recently as a consultant.

Vice President for Media Relations **Kristopher Jones** left NAB recently to take a position Monday as director of government relations with News Corp.

Mobile app developer **jacApps**, part of Jacobs Media, hired **Kate Levy**, a developer of iPhone, Android and Microsoft Windows 7 platforms. It also promoted **Scott Holliday** to director of development and **Bryan Steckler** to operations manager.

Clear Channel Radio named **Wendy Goldberg** to the newly created position of executive vice president for marketing and communications. She reports to CCR President/CEO John Hogan. She was VP of business development and strategy for Hearst Entertainment & Syndication, and has worked at Pilot Group, Six Flags, America Online and AOL Time Warner.

Cumulus Media named **Leslie Brimeyer** as its vice president of financial operations. She was director of market financial operations. The company said she will "expand her responsibilities across 68 local radio markets to also include oversight of the financial operations of DM Luxury LLC, a Cumulus-managed company with publishing assets in 12 major markets."

Jeffrey Gedmin

Jeffrey Gedmin announced his departure from **Radio Free Europe/Radio Liberty** after four years as president. He becomes CEO/president of **Legatum Institute**, London. The Broadcasting Board of Governors started a search for a replacement.

Thomas Hjelm was named vice president and chief digital officer of **New York Public Radio**, which calls itself the largest public radio franchise in the country; it includes WNYC, WQXR and The Jerome L. Greene Performance Space.

E-mail People News to radioworld@nbmedia.com.

OMNIPRESENT

D-75

D-75 STANDALONE AND D-75N NETWORKABLE DIGITAL AUDIO CONSOLES

It's a good bet there's not a single person in America, who's listened to the radio in the last 10 years, who hasn't heard an Audioarts D-75 radio console in action.

That's how prevalent and powerful the Audioarts D-75 is.

FLEXIBLE. AFFORDABLE. BUILT TO LAST.

phone 1.252.638-7000 | www.audioartsengineering.com | sales@wheatstone.com

AUDIOARTS

NOBODY EVER WINS A LATENCY RACE

There was a time not so long ago where 56K seemed like a ridiculously fast speed for surfing the internet. Where a 10 meg hard drive seemed about 10 times more than you'd ever need. When latency was simply a casualty of AOIP networking (still is in some places...) Guess what? Things changed. And they're changing now...

Audio LOVES as much bandwidth as you can throw at it. The more the better. Especially when you're tossing in everything else that travels down that ethernet cable. WHY would you ever limit yourself?

We believe in plenty of overhead. That's why we built it into WNIP. We're 10 times the speed of the other major system. Even if you don't use the speed today, think of it as money in the bank.

Wheatstone

THE INTELLIGENT NETWORK™

phone 1.252.638-7000 | WheatNetIP.com | sales@wheatstone.com

IS YOUR AOIP NETWORK AN INTELLIGENT NETWORK?

Download the FREE white paper "The Technical Case for the Intelligent Network" at WheatIP.com

QSLs Are a Portal to the Past

To Leaf Through the CPRV Collection Is to See Radio History Pass Before Your Eyes

COMMENTARY

BY JERRY BERG

The author is chair of the Committee to Preserve Radio Verifications.

Recent articles in Radio World about AM DXing (long-distance listening) and QSLs (cards and letters verifying reception) are a reminder that the hobby of long-distance radio listening is still around.

During the first few years of the 1920s the novelty of the radio medium made AM broadcast DXing very popular with the general public. Interest waned mid-decade but was rekindled in the early 1930s with the advent of shortwave broadcasting and the possibility of reception over hitherto-unachievable distances. DXing declined during World War II, but bounced back during the Cold War and held its own until the media landscape began changing in recent years.

Among the hardcore, however, the thrill has never died.

PRIMAL SPIRIT

To the DX cognoscenti there is nothing quite so exciting as hearing a faraway signal, direct, with nothing between you and the station except the ether. It is not about how well you hear a station, or what the programs are. It's about distance, and power. The noise, fading and interference of a tough DX catch just add to the excitement.

DXing is an acquired taste, especially on shortwave. Your neighbor might be able to relate to the novelty of hearing a domestic AM station at a long distance. But try to explain the joys of staying up all night to listen to a station that you can barely hear, broadcasting in a language that you don't understand.

For years DXers believed that if they could only get people to *try* DXing, they would like it. They found that the primal spirit that motivates the DXer is not easily transferable.

One of the tangible byproducts of DXing is the QSL, the card or letter from a station responding to a reception report in which the listener proves his or her reception by describing the programming heard. The QSL verifies the listener's reception. DXers collect QSLs as mementos of their reception and as evidence of DXing achievement.

The QSLing of broadcast stations is often thought to have been an outgrowth of the common ham practice of exchanging QSLs of two-way amateur contacts ("QSOs"), thus applying to the one-way medium of broadcasting a practice that developed in the two-way medium of ham radio.

In fact, however, ham QSLing itself grew out of the even earlier practice of hams and non-hams alike sending postcard reception reports to hams and other experimental stations that they heard.

This pattern took root in the second decade of the 1900s. In those very early years, transmitter range was the main indicator of station performance, hence a station operator's interest in knowing how far his signal could be heard by whoever happened to be listening. Such reports were considered valuable, whether coming from the ham at the other end of a QSO, a listening ham, or a non-ham listener or experimenter. Thus reception reports to broadcast stations actually represented a return to the earliest conventions of listener-station contact.

CPRV

Since 1986, a six-person group called the Committee to Preserve Radio Verifications has been archiving collections of QSLs belonging to listeners who have passed

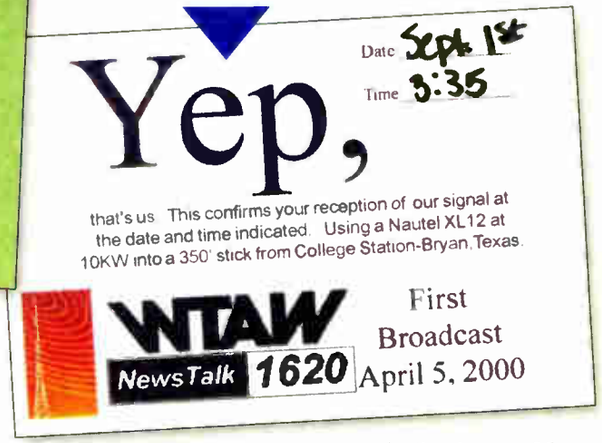
Purists like a QSL to have the date, time and frequency of reception, but usually have to settle for less.

Adding the temperature to the station's QSL card was a nice way to promote 'America's Year-Round Playground,' Miami Beach.

The Portuguese African colony of Angola was home to numerous stations, many of which supplemented their medium-wave transmissions with shortwave in order to reach the country's interior. This card is from 1948.

This QSL is from a staton in the 'new' expanded ('X') band, WTAW, 1620 kHz. The expanded band offered unprecedented opportunities for DX when it was less crowded than it is now, including East Coast reception of California stations, interference-free.

Philips station PCJ, a shortwave pioneer, began regular service in 1927. The steerable towers on this 1937 card were among the most advanced antennas of the day.



(continued on page 24)

PR&E® Oasis™

An all-new analog console built for your digital demands.

A true standalone solution at a low cost, the next-generation Oasis console from Harris provides a digital migration path that fits your time frame — and your budget.

Learn more at www.pre.com.

HARRIS®
assuredcommunications®

harris.com

Broadcast Communications • Government Communications Systems • RF Communications

Mid South: **Bob Mayben**... 1-877-391-2650
South Atlantic: **Art White**... 1-770-632-1295
North East: **Jim Peck**..... 1-315-623-7655
Central: **Bernie O'Brien**.... 1-731-695-1714
North Central: **Pam Leffler**. 1-513-376-8600
South West: **John Lackness** 1-210-775-2725
Mid West: **Mary Schnelle**.. 1-513-899-3036
West Coast: **Doug Tharp**... 1-866-673-9267
Pro Audio: **Ric Goldstein**... 1-877-640-8205
Latin America: **Lily Massari** 1-760-650-1427
Bradley Div.: **Art Reed**.....
Bob Eburg..... 1-800-732-7665

exclusive US dealer for Harris Studio products

35 YEARS
1976 - 2011
of Trusted Business and Customer Satisfaction

SCMS INC.
YOU KNOW WE KNOW RADIO

1-800-438-6040
www.scmsinc.com

QSLs

(continued from page 22)

away or are no longer collecting. Originally sponsored by the Association of North American Radio Clubs, a listener club umbrella group that operated for 40 years, the committee has functioned independently since 2005.

The QSLs are housed at the Library of American Broadcasting on the campus of the University of Maryland in College Park. The approximately 45,000 QSLs under roof (the figure includes duplicates) are mainly from U.S. and foreign AM stations and shortwave broadcast stations worldwide, with some FM, TV, amateur and utility stations represented as well. The collection includes QSLs belonging to more than 200 DXers. From some there are just a few QSLs; other collections run well beyond a thousand.

To leaf through the collection is to see radio history pass before your eyes. The oldest QSL, a ham card, is from 1921; the oldest from a U.S. AM station is from WKN, Memphis, Tenn., 1922.

Among the QSLs in the collection are a 1923 letter from KDKA; a 1941 letter from Edwin H. Armstrong verifying reception of his FM station, W2XMN; and a letter and card from pioneer shortwave broadcaster PCJ in Hilversum, Holland sent in 1929 while shortwave broadcasting was still in the experimental stage.

QSLs needn't be of special historical significance to be interesting, however. There are QSLs from big stations and small stations, from World War II and from the Cold War years, from private stations and government stations, from the U.S. and from exotic locations, from countries that no longer exist — even from pirate stations and clandestine broadcasters.

Some QSLs are simple, others elaborate; sometimes the text is pro forma, other times detailed and personal. Often stations enclose a schedule, coverage map, photograph or other souvenir. Station logos, signatures of station personnel, descriptions of equipment, etc. provide a valuable connection to the station's history. Sometimes it is the only history that remains.

Although CPRV began as an effort to memorialize the work of individual DXers by salvaging this material that was probably headed for the dumpster, it is more than a sentimental exercise. The collection has served as a source of information and graphics for books, articles, websites, etc. Because of the size and scope of the collection, a station's QSLs over a range of years can be compared, offering some visible continuity to the history of stations, many now long gone.

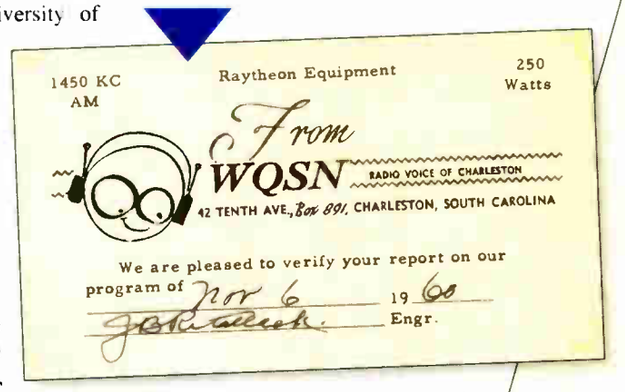
QSLing has changed over the years. Once the province of the station's technical staff to whom long-distance reception was no less a novelty than it was to the listener, today QSLing is mainly a matter of listener relations. And much QSLing is now done electronically. While plainish-looking e-mail verifications do not display as well as their postal mail counterparts, a colorful e-mail attachment can offer much the same satisfaction as a paper QSL.

Alas, budgetary considerations have led some stations to stop verifying altogether, and in general it is harder to pry a QSL from a station than it used to be. But for those bitten by the QSL bug, it is still the essential last step in a DX experience.

Readers wishing to learn more about CPRV or see more of the committee's QSLs should go to the CPRV section of *www.ontheshortwaves.com*. Inquiries should be sent to *jsberg@rcn.com*. If you are seeking a new home for some old QSLs, let us know.

Jerry Berg is a member of the executive council of the North American Shortwave Association and co-producer of the website www.ontheshortwaves.com. *He has written three books on the history of DXing and shortwave broadcasting, published by McFarland.*

Founded in 1953, Radio Liberation (later called Radio Liberty) broadcast to the Soviet Union. Transmitting from Germany, it was funded by the CIA, a fact not known at the time.

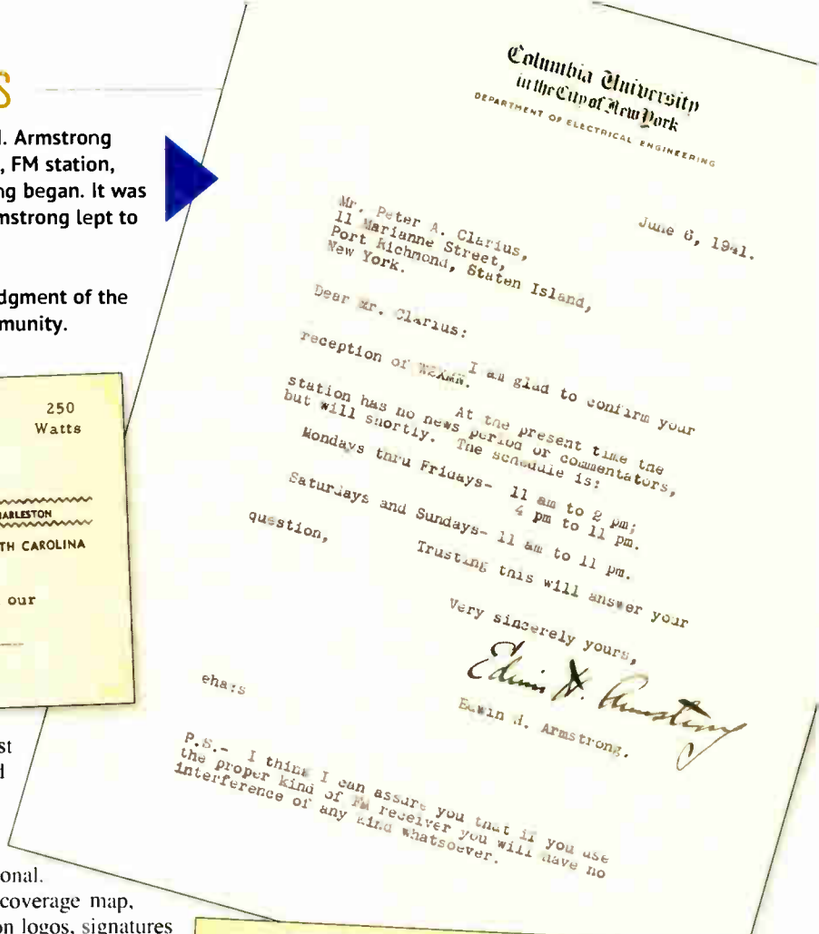

1450 KC AM — Raytheon Equipment — 250 Watts

From WQSN RADIO VOICE OF CHARLESTON
42 TENTH AVE., Box 891, CHARLESTON, SOUTH CAROLINA

We are pleased to verify your report on our program of Nov 6 1960

Engr.

A simple card, but a nice acknowledgment of the usually headphone-attired DX community.


Columbia University in the City of New York
DEPARTMENT OF ELECTRICAL ENGINEERING

June 6, 1941.

Mr. Peter A. Clarius,
11 Marianne Street,
Port Richmond, Staten Island,
New York.

Dear Mr. Clarius:

I am glad to confirm your reception of W2XMN.

At the present time the station has no news period or commentators, but will shortly. The schedule is:

Mondays thru Fridays- 11 am to 2 pm; 4 pm to 11 pm.

Saturdays and Sundays- 11 am to 11 pm.

Trusting this will answer your question,

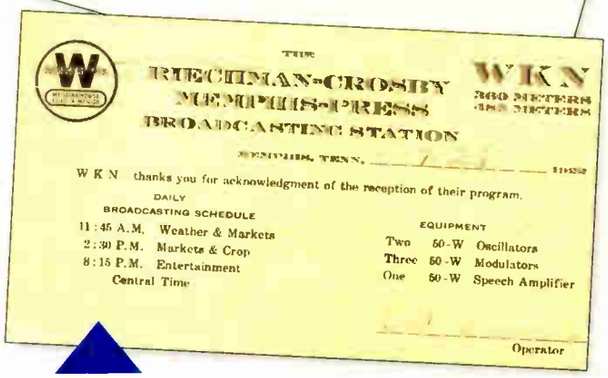
Very sincerely yours,

Edwin H. Armstrong

ehas

P.S.- I think I can assure you that if you use the proper kind of FM receiver you will have no interference of any kind whatsoever.

Here is a 1941 letter from Edwin H. Armstrong QSLing reception of his Alpine, N.J., FM station, two years after regular programming began. It was on 42.8 mc., 35 kW. Tragically, Armstrong lept to his death in 1954.


THE RICHMAN-CROSBY MEMPHIS-PRESS BROADCASTING STATION

WKN 7360 METERS

MEMPHIS, TENN. _____ 1922

W K N thanks you for acknowledgment of the reception of their program.

DAILY BROADCASTING SCHEDULE

11:45 A.M. Weather & Markets
2:30 P.M. Markets & Crop
8:15 P.M. Entertainment
Central Time

EQUIPMENT

Two 50-W Oscillators
Three 50-W Modulators
One 50-W Speech Amplifier

Operator

This QSL really captures the broadcasting environment of 1922: 'Weather, markets, crops, oscillators, modulators, speech amplifier.' But no mention of frequency; it was all wavelength back then, and the standard channels were 360 meters (entertainment) or 485 (market and weather reports).


1604 K.C. W2XCD PASSAIC N. J.

We acknowledge with thanks your comments about the reception of our radio program on the evening of December 5th, 1929

de Forest AUDIONS
DE FOREST RADIO COMPANY
PASSAIC, N. J.

YOU WILL NOTE THE DIFFERENCE RIGHT FROM THE START

W2XCD was an early (1929) experimental television station of the De Forest Radio Co. in Passaic, N.J., and 1604 kc. was the audio channel. That is, of course, a drawing of the 'old man' himself.

In the middle of your busy day...
take a break and install an iQ.

With all that's on your plate, time is precious. Here's a way to get some time back: iQ, the powerful new AoIP console from Axia. So fast and easy, you can unpack it at 11:00 and have audio running by noon. No switch to set up - it's built-in and preconfigured. In fact, everything's built in. Audio. Logic. DSP engine. Power supply. Just plug in power and audio, and you're ready for air. Smart and intuitive, so your jocks will love it. Cost-effective, so your boss will love you. A 16-fader iQ starts at just $9,985.00; 8-faders are only $7,990.00.

iQ. It's about time.

AXIA
A TELOS COMPANY

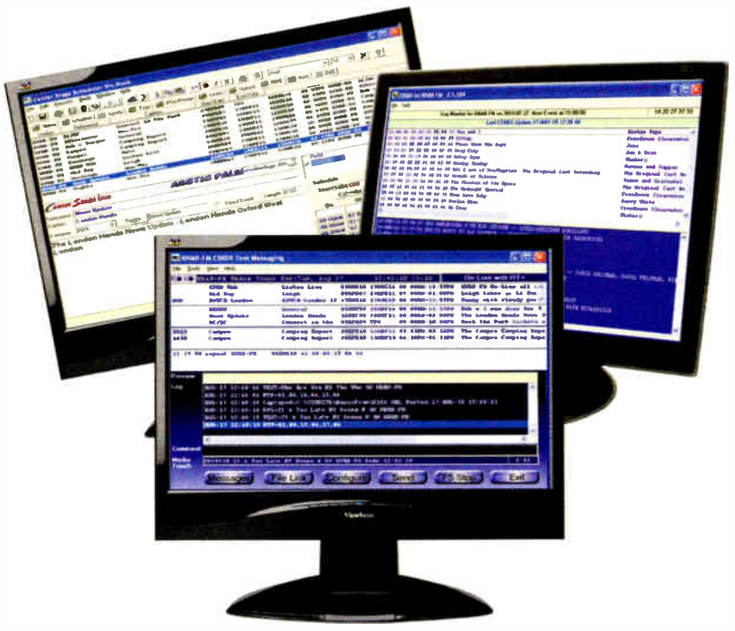
axiaaudio.com

CKUA Is All About the Data

Arctic Palm Center Stage Live Supports Radio Network

USERREPORT

BY KRIS RODTS
Director of Engineering,
IT and Facilities
CKUA Radio Network



EDMONTON, ALBERTA — Today's world is about instant availability of information. What began as novelty became an expected feature. I'm referring to "Now Playing" information. What started as artist and title display has evolved into multiple streams of information on a variety of devices and outlets including the Web.

Imagine if you could provide promotional messages, weather, sports updates and contest information, all mixed in and delivered to these multiple devices.

RANGE OF PRODUCTS

At CKUA, there are no computer-generated playlists. Our DJs play what they want, when they want from the source they want. This represents a challenge and required a customized solution.

CKUA has an estimated music library exceeding 1.4 million song selections in various playback formats, from automation systems in Edmonton, Calgary, to CDs, albums, laptops, tape, live events and produced shows provided to us by outside contractors.

With 16 transmitters spanning the province, we also needed to provide metadata content to each RDS encoder.

The folks at Arctic Palm had a range of software products in their Center Stage Live data capture and delivery software package. For any of our requirements it didn't already meet, Arctic Palm customized answers.

Three core programs form the basic architecture.

CSRDS captures information from multiple sources, formats the information and sends the data to any combination of RDS encoders, websites and streaming players. It is automatically LAN-copied for use in other applications' updating audit tools and the "Now Playing" database.

CSLogIt is used to manually enter music information (from CD and other sources) that is sent to CSRDS on command.

CSRAS too is used to send "Now Playing" information to CSRDS but differs from CSLogIt in that it reads a predefined log and sends the information based on log times — in effect acting as its own radio automation system simulator.

For shows produced by independent contractors, a remote playlist editor was incorporated providing all metadata information when played through the automation systems. This gives the contractor the ability to create a metadata or "log" that matches the audio file for the day-part they are programming.

When ready to submit, a simple mouse click attaches the audio file associated with the playlist metadata and sends it to CKUA via an FTP transfer. At CKUA, software monitors the FTP site and downloads the playlist and audio file from the FTP site. The process will verify the download and, if authorized, the audio file will be placed in the automation system import folder and the playlist will be placed in the CSRAS log file folder.

At the scheduled date and time, CSRAS will send the metadata from the downloaded playlist as per scheduled events.

We also use the CSWeather module, which automatically captures regional weather forecasts from Environment Canada for RDS display when no metadata is available. Yet another module, CSScheduler, allows us to schedule promotional material by station, date, day of week and time of day or it can trigger messages based on what's playing.

This has been a learning experience and would not have been possible without the dedication of Stu Buck at Arctic Palm. No matter the challenge he had a solution at hand.

For information, contact Stu Buck in Ontario at (519) 452-0002 or visit www.arcticpalm.com.

ABOUT BUYER'S GUIDE

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

You've got more than callers on the line.

Ready for the best caller audio you've ever heard? You'll have it with the new Telos Nx6 talkshow system. With four advanced digital hybrids (each with its own carefully tuned AGC and Digital Dynamic EQ), Nx6 delivers smooth, sweet, consistent audio, from cell phones and landlines alike.

For control, choose from the Telos Desktop Director, Call Controller, or Console Director, each with exclusive Status Symbols visual call management icons that show line and caller status with just a glance.

The best part? The Nx6 package including Assistant Producer call screening software and one Desktop Director is yours for only $4,295 MSRP.

Telos Talkshow Systems. Give your listeners a voice. Give your talent a boost. Give your wallet a break.

Telos

AUDIO | NETWORKS
www.telos-systems.com

ZEPHYR IP & ISDN CODECS

With more than 20,000 in daily use around the world, Zephyr is *the best way to hear from everywhere.*

BROADCAST TELEPHONY

Telos is the trusted World Leader in single-line hybrids and multi-line phone systems.

STREAMING AUDIO

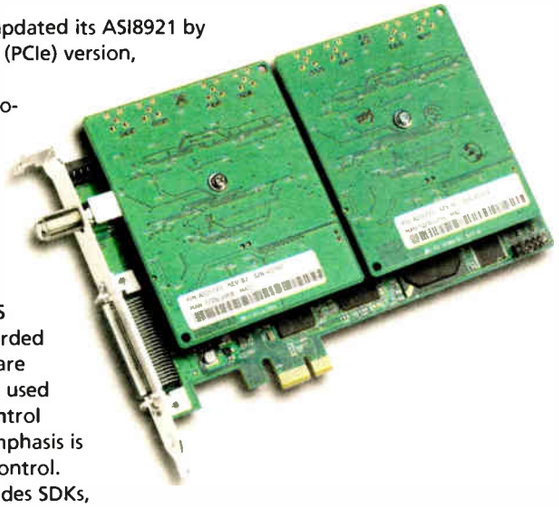
Hardware and software products for processing, encoding and streaming your audio content.

AUDIO LOGGING

PC Software for archiving and logging all of your stations audio.

TECHUPDATES

AUDIOSCIENCE 8821 HAS EIGHT CHANNELS



AudioScience has updated its ASI8921 by creating a PCI Express (PCIe) version, the ASI8821.

The ASI8821 is a professional PCIe tuner adapter for AM/FM radio broadcast audio monitoring and auditing, featuring RDS/RBDS metadata monitoring. RDS/RBDS metadata can be recorded using a custom software application or viewed used AudioScience's ASIControl application. FM de-emphasis is supported using ASIControl.

AudioScience provides SDKs, available on the company website, for developers writing custom applications for monitoring FM analog broadcasts and their accompanying RDS/RBDS data fields. RDS/RBDS fields that can be streamed and collected are PI, PTY, PS and RT.

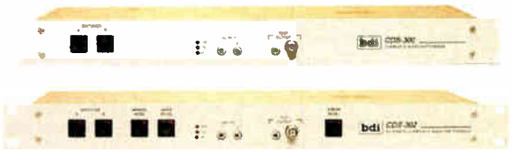
The ASI8821 is a half-length PCI size adapter using modules, each containing four tuners. The ASI8821 can hold two modules for up to eight channels of AM or FM signal received. Antenna connection is via a single F connector antenna input, or optional MCX external antenna jacks. Up to eight ASI8821s can be installed in one PC.

Additional monitoring capability is provided by a mini 50-pin connector that makes available either mono or stereo audio output from each tuner. Output 1 is sourced from a software-controlled multiplexer that may be programmed to select Tuners 1 through 8.

Other features include AudioScience's MRX technology, which allows each stream to have an independent sample rate of between 8 and 48 kHz, PCM, MPEG Layer II, and MP3 recording formats, and up to eight adapters can be placed in one system. Windows 7, XP, Server 2008/2003 and Linux drivers are available.

For information, contact Au-dioScience in Delaware at (302) 324-5333 or visit www.audioscience.com.

BROADCAST DEVICES HANDLES YOUR SIGNALS

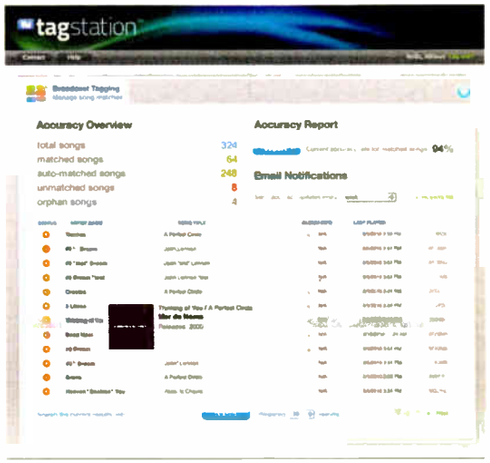


The CDS-300 and 302 are baseband composite products for distribution of FM stereo, SCA and RBDS signals.

The two models each have three outputs, RBDS loop-through and auxiliary port for the addition of an optional CTD-1 baseband-to-AES3 output module. The CDS-300 is a basic two-input baseband FM stereo audio switcher/DA. The CDS-302 is a two-input automatic switcher. Both units feature independent output level control and balanced or unbalanced input. The CDS-302 has a silence sensor for automatic switchover of input in the event of a link failure.

For information, contact Broadcast Devices in New York at (914) 737-5032 or visit www.broadcast-devices.com.

TAGSTATION SOLVES AN iTUNES TAGGING PROBLEM



Broadcast Electronics and Emmis Interactive say TagStation, which they developed in tandem, solves a persistent iTunes tagging problem.

It matches up song data found in the typical radio studio with that of the iTunes music database so listeners accurately can tag songs played over the air by FM and HD Radio-capable receivers.

In order to get in on tagging, stations need a reconciliation program like TagStation to sort out the differences between "now playing" title information broadcast as text and the song information stored in the iTunes database.

Offered by Broadcast Electronics as part of its studio management systems, TagStation interfaces with a station's on-air playout system and RDS or HD Radio transmission gear. Its cloud application uses song data from the station's automation system to create intelligent matches within the iTunes music database.

It interfaces to any automation system, including BE's AudioVault and BE's The Radio Experience data management system, with iTunes database lookup taking place "in the cloud" at the Emmis Interactive portal.

The companies say that whether listeners are tagging on an iPod Nano, Zune or an HD Radio, TagStation ensures that they have a positive, accurate purchasing experience. Listeners can also tag online.

TagStation auto-matches songs and then e-mails accuracy reports to programmers, who have the option to manually adjust any song-matching discrepancies through the self-service online portal. TRE software keeps the database up to date in real time and inserts the necessary tagging information into the RF signal. TRE communicates to the RDS encoder without a blackbox translation of the RBDS protocol.

TagStation is one of several applications available for BE's The Radio Experience, a data management system for creating and scheduling text messages by daypart, event and category. TRE has a suite of applications for interleaving "now playing" text with traffic, news and other messages; for linking text messages to on-air audio; and for hooking into third-party providers for news, sports, weather and other data broadcast as text on RDS or HD Radio data-enabled receivers.

For more information, contact Broadcast Electronics at (217) 224-9600 or www.bdcast.com.

BW RBRX1 Proves to Be All-in-One Box

Guamanian Broadcaster Eliminates Unnecessary Clutter From Remote Site

USERREPORT

BY MATTHEW DODD
General Manager
Joy FM

AGAÑA HEIGHTS, GUAM — When looking for a rebroadcast solution, often you have to buy two or three, sometimes four boxes to get the desired effect. Joy FM, aka KSDA, is a full-power FM station based in Guam that is increasing its range throughout neighboring islands via remote translators. We were looking for a system that was able to pull in the signal in a very high RF environment (three transmitters operating at 89.9, 97.5 and 99.9 MHz in the same small, remote building), alert us if there were any problems with the audio and rebroadcast a clean sound with an edited RDS text.

We had been trying to pull in our FM station from 135 miles away.

Previously we have struggled to pull in a useable signal, then had a separate RDS encoder and silence detection unit at each site.

We had been trying to pull in our FM station from about 135 miles away with another brand of FM tuner; we could never get it to sound good. We wanted to use the off-air signal as a backup audio source for our translator. The BW Broadcast RBRX1 really pulls in the signal. We're operating in the fringe so it's amazing what it can do.

For Joy FM it can pull in a signal that is previously unattainable, and rebuild the audio to the extent that it is exactly the same as when it leaves the studio. The built-in RDS encoder lets us edit the RDS text at each site. This has allowed us to localize adverts as well as schedule the individual RDS data for each site.

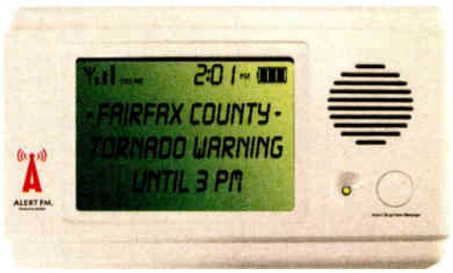
The RDS encoder serves a number of functions, one of which aids the protection of your frequency and the prevention of unwanted noise. By recognizing the PI code in the received RDS data, the unit can ensure that it will rebroadcast only when the correct PI Code is present. This is great for us as we have previously had some local pirate stations causing interference. Thanks as well to the dynamic bandwidth limiting on the RBRX1, this is now a thing of the past.

The BW Broadcast RBRX1 also has saved us time as it was quick and easy to install and remote accessible. It saved us money, as we have been able to get a solution for multiple problems in one box; and it saved us space as we only have one 1RU unit instead of three or four units.

For information, contact Adam Hall at BW Broadcast (866) 376-1613 or visit www.bwbroadcast.com.

Audemat Helps With Alert Study

RDS Encoder Used to Confirm RBDS Is Viable for FEMA/IPAWS Alerts



USERREPORT

BY MATTHEW STRAEB
Executive Vice President
Global Security Systems

JACKSON, Miss. — In 2010, Global Security Systems completed a Federal Emergency Management Agency-funded study conducted by Northrop Grumman Corp. that confirmed the effectiveness of FM radio-based alerts and warnings provided by Alert FM using the Audemat FMB80 RBDS/RDS encoder.

The Alert FM system has standardized on the FMB80 to build its switchless emergency alerting system. The resulting system uses the Radio Broadcast Data Service FM-subcarrier technology to deliver up to 240-character text messages to any electronic device (including mobile devices) with Alert FM software and an enabled FM radio receiver chip.

CONNECTIVITY

We approached Audemat as we knew they were considered quite the experts in the field of RBDS. They proposed the FMB80 to us and we were convinced at once. The unit not only complies with the worldwide RDS/RBDS standards, it supports the broadcast of all data groups and features and we can connect to every unit in the field using satellite-delivered TCP/IP connectivity. More than 45 million people in 15 states now have access to Alert FM technology thanks to the Audemat FMB80.

The FMB80 is best known for enabling radio stations to display information such as song titles and artist information but our success shows that it can also be used in many other applications. Together, the FMB80 RDS encoder and the Alert FM software allow rapid dissemination of emergency alert messages over the existing nationwide and redundant FM radio infrastructure to any audience based on geographic or organizational groupings. FM-enabled devices in a single school, a football arena or the entire country can be targeted.

Plus, in times of disaster when cellular networks become overloaded, FM radio's single-point to multiple-point transmission assures the delivery of critical information to a vast number of FM-enabled devices simultaneously. In addition, Alert FM "wakes up" the FM-enabled device when an emergency alert message is delivered.

Using the FMB80, the Alert FM system supports a satellite-delivered, Common Alerting Protocol-compliant solution capable of delivering both audio and data feeds to radio broadcasters. The encoder is powerful enough to query the Alert FM satellite receivers at each broadcast location and deliver critical performance data back to the central operations point.

To prove the viability of the Alert FM system and the FMB80 RDS platform, a real-world study was conducted featuring a continuous working demonstration over a three-month period and across three locales: a college campus; four counties spread across two states; and a larger region. The structured live demonstrations tested the effectiveness of Alert FM by activating receivers, adhering to CAP requirements, implementing geotargeting exercises and executing an all-clear wrap. Following the operational test, the study surveyed alert originators, radio broadcasters and test users who were all more than satisfied with the results.

More than 45 million people in 15 states now have access to Alert FM technology thanks to the Audemat FMB80.

Now, state broadcast associations from Alabama, Mississippi, Missouri, New Jersey and Tennessee along with radio groups K-Love, Air1, Commonwealth Broadcasting and the Cromwell Group are using Audemat's FMB80 to support Alert FM for emergency alert messages in their states and markets. Alert FM has been implemented at the university, state, county and multicounty levels.

For information, contact Chris Poulain at WorldCast Systems in Florida at (305) 249-3100 or visit www.worldcastsystems.com.

TECHUPDATE

VIARADIO'S RBDS ENCODERS ADD RT+

ViaRadio's RBDS encoders have been updated to support automatic RT+ generation from title/artist and sophisticated decoding using an optional RDS Lab app.

According to the company, these encoders are compliant with the latest specifications for RDS and RBDS including the RDS UECP Protocol V6.01, and support RDS features such as TMC (Traffic Messaging Channel) and ODA (Open Data Applications) for applications like song tagging, emergency warning systems and electricity demand management.

Unlike some analog encoders, according to viaRadio, its DSP-based platform generates a clean signal with no harmonic at 76 kHz to interfere with HD signals.

The encoders feature two BNC outputs for main and backup transmitters with separate sync ports for each. To handle data there are four serial ports, four TCP ports and four UDP ports plus a dedicated TCP/UDP port for automation system input.

For integration into existing network management systems, the encoders support SNMP protocol to report events via SNMP traps and e-mail, and there are logical inputs and contact closures available on the rear panel.

The Windows-based configuration software gives users access to RDS encoder parameters for easy automation interfacing. The complete encoder setup can be saved to, reloaded and cloned from an XML file.

New for 2011, viaRadio's RDS Lab decoder software can connect directly to the encoder via IP and display exactly what it being sent in real time. RDS Lab also will show and log RT+ information and encrypted TMC messages in plain text.

For information, contact viaRadio in Florida at (321) 242-0001 or visit www.viaradio.com.

OMNIA ONE
STICKER SHOCK.
THE GOOD KIND.

• Critics have spoken • 5,000 success stories • hear it and you'll be sure that someone spent a fortune on their processing • truth is, Omnia ONE costs a fraction of what it sounds like • shocked? • you shouldn't be, its an Omnia.

Find out more: www.omniaaudio.com

Omnia
A Telos Company

Radio never sleeps. Neither do we. We're here for you, anytime, with free round-the-clock, 24/7 technical support. Call +1-216-622-0247

Espace Musique Extends RBDS Network

RBDS Encoders Made by 2wcom Are Installed at 39 Stations in Canada

SPECIAL REPORT

BY JAMES CARELESS

MONTREAL — Espace Musique, the music channel of Canadian francophone public-service broadcaster Radio-Canada, is outfitting its network of stations with RBDS data services.

Espace Musique has installed C02 RBDS encoders from manufacturer 2wcom at 39 stations in Canada, significantly expanding the network's use of RBDS "without making a major investment," according to Charles Rousseau, an engineer in the Radio-Canada Spectrum Engineering department.

The Radio Broadcast Data System, or RBDS, is the North American implementation of the FM Radio Data System, or RDS. Both systems use the 57 kHz subcarrier of an FM signal to carry a variety of data services.

Although the majority of Espace Musique outlets operate in Quebec, New Brunswick and Ontario, it has outlets in all 10 Canadian provinces.

"The C02 with its multiport solution offers an extremely flexible concept," said 2wcom CEO Werner Drews. "Five different services can be managed by a single encoder via five independent IP ports, either TCP or UDP."

MONITORING

For monitoring purposes, 2wcom A20 measuring and monitoring decoders have been installed within each of Radio-Canada station's signal footprints.

The A20 is self-sufficient, said Drews. "If any irregularity occurs within the network, the A20 alerts and reports the problem immediately and automatically via SNMP before the audience even notices it."

The decoders connect back to Radio-Canada's engineering department via TCP/IP connections, and, said Drews, "Optional MP3 live streaming allows users to monitor the audio received by an A20 from anywhere for signal-quality checks."

> **If you are driving** from Quebec City to Montreal, your car radio will tune to whichever of these two signals is more powerful.
>
> – Charles Rousseau

The 2wcom C02 RDS/RBDS Encoder and A20 Monitoring Decoder

Not surprisingly, Radio-Canada is using its new RBDS service to deliver artist and song names to its listeners' RBDS-enabled receivers. But the system also supports a Traffic Message Channel to provide listeners with on-screen traffic information, an emergency warning system for real-time weather and other alerts, as well as other forms of datacasting as they become available.

The system also supports PI codes, and each station on the network has its own. The code allows the RBDS receiver to "know" where it is getting its signal from. Besides providing this data, PI codes make it possible for RBDS-capable car radios to switch automatically from a fading Espace Musique signal to a stronger signal that is coming into range.

"As far as the listener is concerned, there is no switchover; it is seamless coverage," says Rousseau. "In reality, the receiver has made the switch in the background. For instance, if you are driving from Quebec City to Montreal, your car radio will tune to whichever of these two signals is more powerful."

By adding the 2wcom RBDS system to its Espace Musique network — "it only consumes a bit of bandwidth, but delivers a lot of value," Rousseau said — Radio-Canada hopes to give its listeners more reasons to tune in.

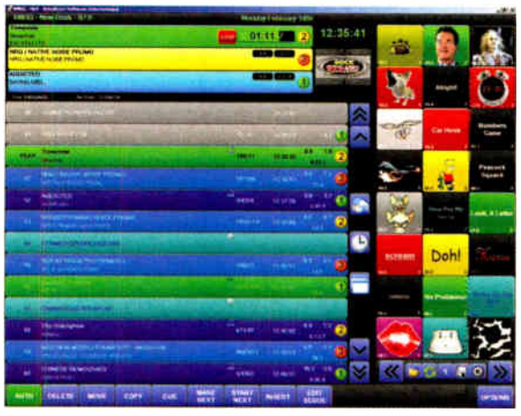
The inclusion of local real-time traffic news and emergency warnings should help Espace Musique network stations compete against local talk radio stations. No longer will listeners have to scan elsewhere to find out what's on the road ahead. Meanwhile, the A20 monitoring system allows Radio-Canada to keep an eye on its RBDS operations without spending more money on human engineers.

"The English equivalent of Espace Musique, CBC Radio 2, is considering adding this system to their transmitters," Rousseau said.

TECHUPDATES

BSI OP-X FEATURES RDS

Op-X is a tiered and scalable automation package from Broadcast Software International. Automatic networking features make it simple to set up in either a single-station studio or a multistation cluster. RDS and datacasting features are part of the system.



Op-X provides customizable PAD data that can be output to an XML file or over an IP interface for use with RDS or in datacasting. This is done using built-in Data options in the Op-X Audio Server. The output options include the ability to exclude audio items from output based on the category in their tagging information.

Additionally, the required tagging information can be selected for output by checking the necessary boxes of your required data fields. Data can be sent for previously played and upcoming events for display on a website or for other datacasting needs. Much like the option to exclude audio items by category, an option is available to exclude events based on a minimum length. Data also can be output as serial data for devices that do not accept PAD data.

For information, contact BSI in Oregon at (888) 274-8721 or visit www.bsiusa.com.

INOVONICS HAS RDS/RBDS ENCODER

Inovonics offers the latest in its "Flagship" Model 730 RDS/RBDS encoder.

According to Inovonics, the Model 730 meets the needs of both domestic and international markets, responding to ASCII and UECP command sets. USB, serial and IP/LAN network connectivity ensures integration with station playout (automation) and third-party data consolidators.

The Model 730 supports UECP, PS (Program Service Name), PI (Program Identification), PTY (Program Type), PTYN (Program Type Name), TP / TA (Traffic Program/Traffic Announcement), RT+ (RadioText Plus), PS (Program Service Name), AF (Alternative Frequencies), CT (Clock Time and Date), DI (Decoder Information), M/S (Music/Speech Switch) and RAW (Raw Data Entry).

Upgrades over the last year have increased utility to the ODA (Open Data Applications) function, offering the broadcaster revenue possibilities in leasing a portion of the RDS data stream. The RT+ "tagging" function has been expanded as well, to link listeners more easily to download sites for songs, Web addresses and to telephone numbers for goods and service providers.

The function of the 730's scheduler has also been expanded, allowing both messaging and RDS commands to be programmed on a calendar and time schedule to match special or repeating broadcast events.

For information, contact Inovonics in California at (800) 733-0552 or visit www.inovon.com.

READER'SFORUM

CRA ON DAB+

I refer to a letter published in Radio World titled "An Australian Perspective on Digital" written by Alan Hughes, technical author, Perth, Western Australia (*Reader's Forum*, Dec. 15).

While Mr. Hughes is free to voice his own opinion about digital radio, your readers may have been under the impression he was in some way involved in the broadcast of digital radio or the commercial radio industry in Australia and he is not.

Commercial Radio Australia is the industry body representing 99 percent of the commercial radio industry in Australia. CRA made a submission to the Department of Broadband, Communications and the Digital Economy discussion paper on regional technologies, reaffirming the commercial radio industry's often-stated position that DAB+ in Band III VHF is the industry's preferred technology for regional Australia with technology for wide-area coverage, specifically in remote regional areas being considered at a later date once the planning for the DAB+ rollout is complete.

The Minister for Broadband, Communications and the Digital Economy, Sen. Stephen Conroy, announced at the National Radio Conference in October 2010 in Melbourne that the government has already identified that 14 megahertz of spectrum in the VHF Band III will be made available to facilitate the rollout of digital radio to rural and regional Australia; and we look forward to working with the regulator, ACMA, to enable all Australians to ultimately be able to experience the benefits of DAB+ digital radio.

Joan Warner
Chief Executive Officer
Commercial Radio Australia
Sydney, Australia

FROM SUDAN TO THE BAY AREA

Allow me to express appreciation for two splendid articles in Radio World, both in the Jan. 1 issue.

Such excellent photos also for both stories — new stations in the Sudan ("African Broadcast Alliance Helps Bring SRS Home") and the historic shortwave station on Treasure Island in San Francisco Bay ("W6XBE at the Golden Gate Exposition, 1939").

Dr. Adrian M. Peterson
Coordinator - International Relations & DX Editor
Adventist World Radio
Indianapolis

Adrian Peterson is an occasional contributor to Radio World on shortwave topics.

WHAT THE HECK IS THAT?

John, I enjoyed your article on W6XBE. My curiosity is killing me, though. In the picture, what is the device installed on the wall just outside the studio? Almost looks like a shoe polisher/cleaner? Hopefully you can enlighten me.

Allan A. Augustyn
Director of Network Engineering
Radio Results Network
Escanaba, Mich.

Author John Schneider responds: There's an easy answer to your question. It's a power tube for the transmitter!

Besides building the transmitter itself, GE was also a tube manufacturer and built high-power water-cooled tubes like the one in the picture. This one was obviously on display for the public to admire. All high-power radio transmitters (RCA, GE, Western Electric) used these tubes until RCA introduced forced-air-cooled tubes in the 1940s.

ADVERTISER INDEX

This listing is provided for the convenience of our readers. Radio World assumes no liability for inaccuracy.

PAGE	ADVERTISER	WEB SITE/URL
12	AM Ground Systems Co.	www.amgroundsystems.com
28	Arctic Palm	www.arcticpalm.com
19	Arrakis Systems Inc.	www.arrakis-systems.com
4	AudioScience Inc.	www.audioscience.com
9, 25	Axia - A Telos Company	www.axiaaudio.com
33	Broadcast Tools, Inc	www.broadcasttools.com
39	BSI	www.bsiusa.com
3	BSW	www.bswusa.com
7	Comrex Corporation	www.comrex.com
1	Continental Electronics Corp.	www.contelec.com
5	Digital Alert Systems	www.digitalalertsystems.com
14	Gorman Redlich Mfg	www.gorman-redlich.com
30	Grace Broadcast Sales	www.gracebroadcast.com
15	Inovonics Inc	www.inovon.com
18	Mayah Communications GmbH	www.mayah.com
10, 18, 29	Nautel Ltd.	www.nautel.com
17, 31	Omnia - A Telos Company	www.omniaaudio.com
26	Progressive Concepts	www.progressive-concepts.com
29	Sage Alerting Systems	www.sagealertingsystems.com
23	SCMS	www.scmsinc.com
13, 27	Telos Systems - TLS Corp.	www.telos-systems.com
32	Termark Technical Institute	www.termark-tech.org
11	Tieline Technology	www.tieline.com
2, 20, 21, 40	Wheatstone Corporation	www.wheatstone.com

School Program Trains Broadcast Engineers

Now We Just Need to Spread the Word

COMMENTARY

BY ERIC HEIDENDAHL

The author is professor/coordinator of broadcast engineering for Loyalist College in Belleville, Ontario.

Broadcast engineering is not very well understood.

Radio, television and now Internet "broadcasting" have broad public appeal. However, while most people can identify with on-air personalities and even production crews, ask them to describe what a broadcast engineer does and you will often get what can only be described as blank, puzzled stares.

When I confess to being a professor of broadcast engineering, my listener will try to imagine what that means. Even my mother-in-law proclaims, albeit with pride, "I'm not quite sure what it is that you do, but you obviously do it well, good for you."

The truth, of course, is that long before production, playout, editing or transmission can take place, a broadcast engineer has been at work sweating the technical details. Using a language punctuated with decibels, kilowatts and gigabytes (foreign to most others), broadcast engineers quietly architect the systems that make the "magic" possible.

Perhaps identified in the past as a "pocket-protected" super nerd, the broadcast engineer necessarily has been transformed — by rapid change and increasing demands of profitability — into a multi-talented hybrid of engineer, IT professional and accounting-savvy dynamo.

What has always been a rewarding career continues to challenge engineers to keep current and to seek creative solutions as new technology comes to the fore. Lifelong learning is its own reward as professionals struggle to make sense of a future that seems forever changing. We're talking about dedicated individuals who take great pride in keeping their respective stations on the air "no matter what it takes."

WHO'S NEXT?

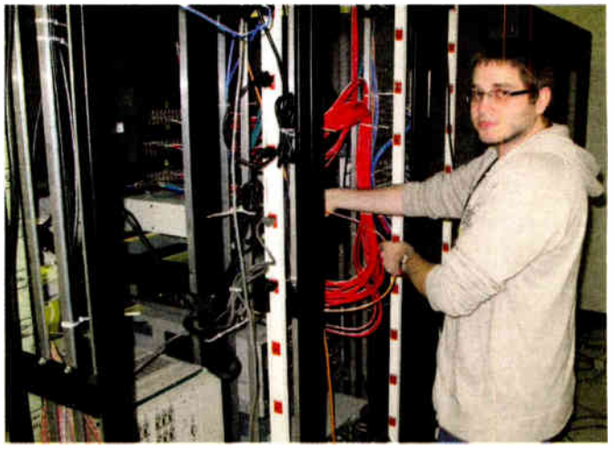
Yet it's unfortunate to think, as many people do, that the aging population of broadcast engineers is headed for retirement without protégés to receive the benefit of their years of experience. Lessons learned at this school of hard knocks are invaluable.

It would seem that being part of a dynamic broadcast team in an exciting, rewarding field would entice people to choose this as a career path. But traditionally a number of factors contribute to low enrollment rates for new students. The anonymity of the job, as well as the obvious allure of the ever-expanding computer industry, draw young people in other directions, for example.

Educational institutions can't do much about the glamour aspect. But they can address one problem: the lack of formal educational options.

Garner Millward completes a lab on a Sony BVW75 VTR.

Lindsay Youlton-Laroche is enthusiastic about the BRET program.



Having completed the design, Paul Stilo finishes the wiring.

For instance, in Canada, there was until recently only one choice, the Southern Alberta Institute of Technology. Located in Calgary, Alberta, SAIT runs a fine program and has for years seeded the industry with quality graduates, many of whom are now in senior positions in the industry. As an engineering manager myself, I often made the trek to Calgary to interview graduates in hopes of filling open positions.

But I often wondered why there weren't schools in eastern Canada considering similar programs, closer to the target market. Thankfully, in 2008 Loyalist College took the plunge and began the Broadcast Engineering Technology program, changing the landscape for students in this part of the country.

Located near Toronto, a center for several Canadian broadcast networks, as well as the U.S. border, Loyalist offers a three-year advanced diploma program. Industry support has been nothing short of spectacular. An engaged advisory committee has provided direction and generous amounts of donated equipment to sustain this new program.

First-year students start with basic skills in electronics, computers, CAD and math as well as the soft skills that ultimately will be required.

In the second year, they begin their focus on broadcast-specific skills, with instruction in video, audio and radio frequency as well an introduction to specific equipment systems.

In their third year, they begin to apply these basics as they learn systems integration, project management and computer management that allow them to put it all together. There is always an emphasis on the changing nature of broadcasting; the economics of the business stay front-of-mind.

The students become familiar with the industry and potential employers through successive internships in spring of their second and third years.

Loyalist College has targeted an intake of 20 to 25 students in the first year, with an overall student population of 50, though it has yet to meet these targets.

Our facilities are housed in three labs, one dedicated to each of our three areas of focus: electronics, information technology and broadcasting. These have been equipped through capital support from the college and generous donation from the industry. We are able to replicate the design, build and commissioning of acquisition, production/editing and transmission systems.

The college has demonstrated its commitment to the program through the hiring of a full-time professor, a full-time support staffer and six part-time faculty, as well as the capital commitment to the labs.

Graduates, I believe, enjoy a promising future. If last year's internship experience is any indicator, industry demand for new graduates is high. Most interns stayed on with their employers and worked the summer months.

Loyalist College is committed to giving our graduates every advantage. Loyalist is certified with the Society of Broadcast Engineers; graduates who achieve a 70 percent average or better are eligible to seek accreditation as a CBT (Certified Broadcast Technologist) after successful completion of the society's exam.

Broadcast engineering is a solid career choice for those who are technically inclined; but for now it is a well-kept secret. For me, the existence of Loyalist's BET program is one answer to the common question, "Where will the next generation of broadcast engineers come from?"

OPINION

FCC Rules Affect Your Tower Plan

Building a New Structure? You Need to Know About These Requirements

COMMENTARY

BY CLARENCE M. BEVERAGE

The author is founder of engineering consulting firm Communications Technologies Inc.

Many broadcasters believe that construction of a radio tower is a matter requiring only FAA, local and possibly state approval prior to building.

When they learn that the FCC has very specific environmental assessment requirements that must be completed before the construction permit can be granted, the unplanned cost, potential complications and delay are never welcome.

The purpose of this article is to explain the process so that it can be incorporated into the schedule and budget from the beginning.

The good news is that often the local approval process requires some of the same studies that are required by the FCC.

If any of these questions are answered 'Yes,' you'll need to complete an environmental assessment and file it with the FCC.

CHECKLIST

What is the FCC looking for? First, that the investigator answering the questions below meets the Secretary of the Interior's Professional Qualification Standards. (See them at *www.nps.gov/history/local-law/arch_stnds_9.htm.*)

Then if the investigator is able to answer "No" to each question below, no further investigation is required for FCC environmental purposes.

If any of the questions have a "Yes" answer, an environmental assessment must be completed and filed with the FCC. No construction may begin until the FCC has reviewed the assessment and approved the proposal.

The questions requiring "No" answers:

1 Will the facility be located in an officially designated wilderness area?

2 Will the facility be located in an officially designated wildlife preserve?

3 Will the facility affect federally listed, threatened or endangered species or designated critical habitats or is the facility likely to jeopardize the continued existence of any federally proposed endangered or threatened species or likely to result in the destruction or adverse modification of federally proposed critical habitats?

4 Will the facility affect districts, sites, buildings, structures, objects or other cultural resources listed, or eligible for listing, in the National Register of Historic Places?

5 Will the facility affect Indian religious sites?

6 Will the facility be located in a flood plain?

7 Will the construction of the facility involve a significant change in the surface features (e.g., wetland fill, deforestation or water diversion)?

8 Will the antenna tower and/or supporting structure be equipped with high-intensity white lights and be located in a residential neighborhood, as defined by local zoning laws?

9 Will the proposed facility fall outside the categorical exclusions contained in Table 1 of 47 CFR Section 1.1307(b)(1) and potentially cause exposure of workers or the general public to levels of radio frequency radiation in excess of the emissions limits set forth in Section 1.1310?

10 Will the proposed facility be constructed within one mile of the centerline of a National Scenic Trail and has the Trail Management Office indicated that the proposed construction will have a significant adverse effect?

In order to answer properly, the investigator typically will visit the site, then submit a site plan to the State Historic Preservation Office (SHPO) and go through the Tribal Notification process available through the FCC website.

TEAMWORK

Investigators (environmental consultants), like all professionals, are not always equal in terms of price, turnaround time and experience.

You can control your costs by encouraging your environmental consultant, FCC attorney, consulting engineer, local land use attorney, civil engineer and chief engineer to share information and work together as a team. You will find that both your FCC legal counsel and consulting engineer will have worked with multiple environmental consultants and can direct you to a firm they know and trust.

The environmental research is not always straightforward. Knowing when a SHPO or tribal group is asking for more than what is appropriate takes experience and good negotiating skills.

The FCC Audio Division staff reviews every application for new tower construction to confirm that the National Environmental Policy Act, or NEPA, requirements have been met before a construction permit is granted.

Note that the FCC, as a federal agency, must uphold the requirements of the Declaration of National Environmental Policy created by the federal government; the regulations were not created by the FCC itself.

Members of the FCC Audio Division Supervisory Staff were kind enough to offer guidance for AM and FM broadcasters in regard to the filing of an application for construction permit involving tower construction:

- Take a few minutes to review the information found at *http://wireless.fcc.gov/siting/EA_checklist.pdf* to understand what the environmental process is all about.
- Check "yes" for the box saying that the proposal will not have a significant environmental impact and complies with OET-65 Guidelines. Do not add qualifying language regarding environmental impact. Do not submit a copy of the environmental consultant's environmental analysis.
- Applicants are cautioned not to check "yes" if the environmental analysis has not been undertaken. Tower construction is a hot topic in many sectors of society including the bird community, historic preservation and groups that oppose towers due to visual impact or an expectation of lowered property values. These organizations watch for opportunities to file a petition to deny or informal objection that can delay application processing or result in a CP grant being rescinded, at a minimum. Checking the "yes" box without having undertaken the requisite environmental analysis could leave the applicant open to sanction for false certification or misrepresentation.

The website of Communications Technologies Inc. is www.commtechrf.com.

RADIOWORLD

Vol. 35, No. 7 March 9, 2011

Next Issue of RADIO WORLD March 23, 2011
Next Issue of ENGINEERING EXTRA April 13, 2011

E-mail: radioworld@nbmedia.com
Web site: www.radioworld.com
Telephone: (703) 852-4600
Business Fax: (703) 852-4582
Editorial Fax: (703) 852-4585

For address changes and subscription renewal, please visit radioworld.com and click on the "Subscription" button. To submit letters or story proposals, to request writer's guidelines, or for other editorial matters, e-mail the editor at radioworld@nbmedia.com.

EDITORIAL STAFF
EDITOR IN CHIEF, U.S. Paul J. McLane
NEWS EDITOR/WASH. BUREAU CHIEF Leslie Stimson
GEAR & TECHNOLOGY EDITOR Brett Moss
TECHNICAL ADVISER Thomas R. McGinley
TECHNICAL EDITOR, RWEE Michael LeClair
PRODUCTION EDITOR, RWEE Karen Lee
CONTRIBUTING EDITOR John Bisset
INTERNATIONAL EDITOR IN CHIEF T. Carter Ross
LATIN AMERICA EDITOR IN CHIEF Rogelio Ocampo
LATIN AMERICA EDITOR Karina Gerardi
MANAGING EDITOR, WEB Brian Smith

EDITORIAL CONTRIBUTORS
W.C. Alexander, Barry Blesser, James Careless, Harry Cole, Ken Deutsch, Mark Durenberger, Charles Fitch, Ty Ford, Harold Hallikainen, Craig Johnston, Paul Kaminski, Peter King, Mark Lapidus, Daniel Mansergh, Mark Persons, Sharon Rae Pettigrew, Stephen M. Poole, Carl Lindemann, Ted Nahil, James O'Neal, Tom Osenkowsky, Rich Rarey, Tom Ray, John Schneider, Randy Stine, Richard Strickland, James G. Withers, Tom Vernon

ADMINISTRATION & PRODUCTION
PUBLISHER John Casey
EDITORIAL DIRECTOR T. Carter Ross
PRODUCTION DIRECTOR Davis White
PRODUCTION PUBLICATION COORDINATOR Karen Lee
ADVERTISING COORDINATOR Caroline Freeland

CIRCULATION
ASSOCIATE CIRCULATION DIRECTOR, AUDIENCE DEVELOPMENT Tracey Dwyer
CIRCULATION MANAGER Kwentin Keenan
CIRCULATION COORDINATOR Michele Fonville

SUBSCRIPTIONS
Radio World, P.O. 8ox 282, Lowell, MA 01853
TELEPHONE: 888-266-5828 (USA only 8:30 a.m.–5 p.m. EST)
978-667-0352 (Outside the US) FAX: 978-671-0460
WEB SITE: www.myRWNews.com
E-MAIL: newbay@computerfulfillment.com

CORPORATE
NewBay Media LLC
PRESIDENT AND CEO Steve Palm
CHIEF FINANCIAL OFFICER Paul Mastronardi
CONTROLLER Jack Liedke
GROUP CIRCULATION DIRECTOR Denise Robbins
VICE PRESIDENT OF WEB DEVELOPMENT Joe Ferrick

VIDEO/BROADCAST GROUP
EXECUTIVE VICE PRESIDENT Carmel King
VICE PRESIDENT / SALES DIRECTOR Eric Trabb

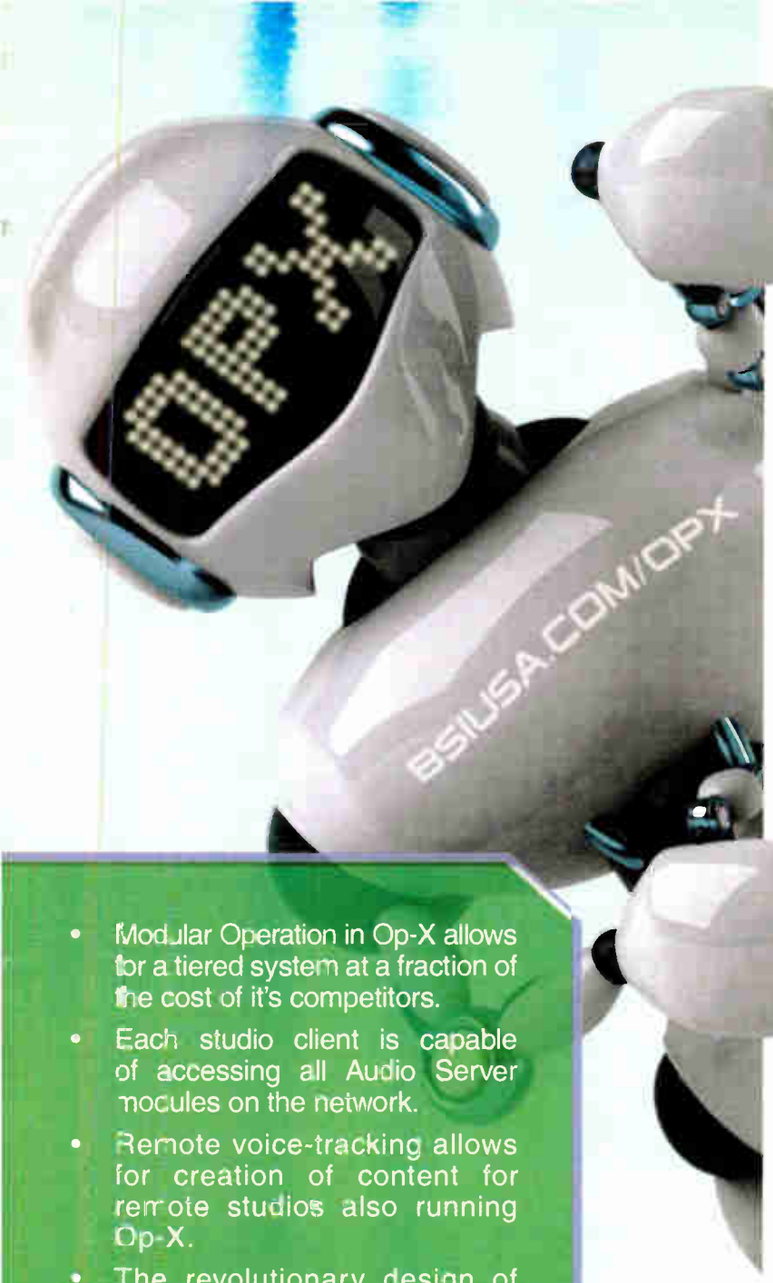
ADVERTISING SALES REPRESENTATIVES
US EAST & LATIN AMERICA: John Casey, jcasey@nbmedia.com
T: 212-378-0400, ext. 512 | F: 330-247-1288
US WEST & CANADA: David Carson, dcarson@nbmedia.com
T: 212-378-0400, ext. 511 | F: 866-572-6156
SOUTHERN EUROPE, AFRICA, MIDDLE EAST: Raffaella Calabrese, rcalabrese@broadcast.it
T: +39-02-7030-0310 | F: +39-02-7030-0211
UK & IRELAND, CENTRAL & NORTHERN EUROPE: Graham Kirk, g.kirk@audiomedia.com
T: +44-1480-461555 | F: +44-1480-461550
JAPAN: Eiji Yoshikawa, callems@world.odn.ne.jp
T: +81-3-3327-5759 | F: +81-3-3322-7933
ASIA-PACIFIC: Wengong Wang, wwg@imaschina.com
T: +86-755-83862930/40/50 | F: +86-755-83862920
CLASSIFIEDS: David Carson, dcarson@nbmedia.com
T: 212-378-0400, ext. 511 | F: 866-572-6156

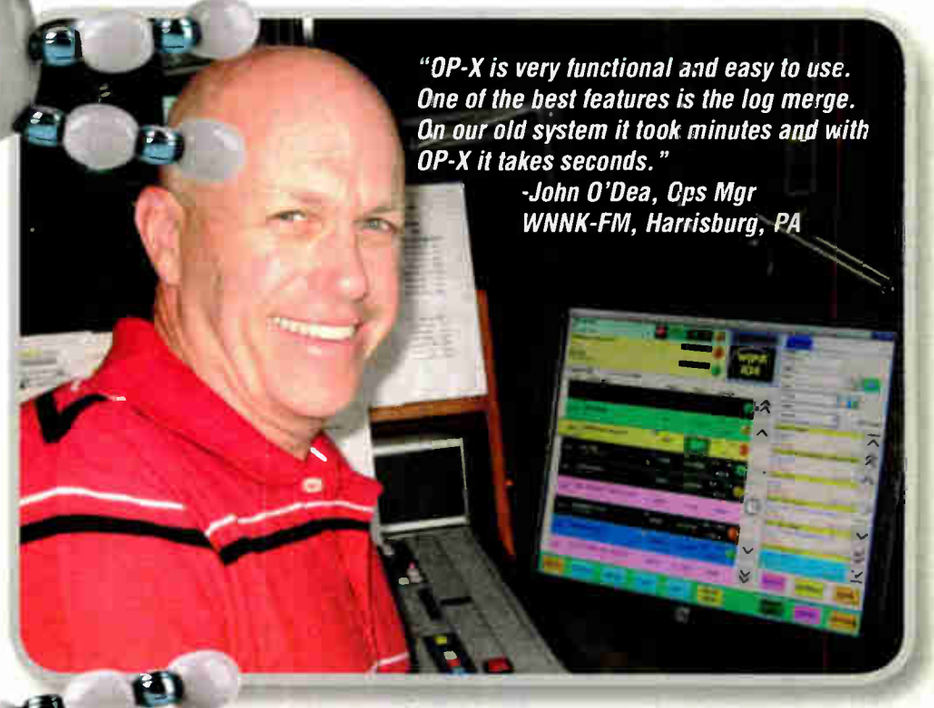
Radio World Founded by Stevan B. Dana

Radio World (ISSN: 0274-8541) is published bi-weekly with additional issues in February, April, June, August, October and December by NewBay Media, LLC, 28 East 28th Street, New York, NY 10016. Phone: (703) 852-4600, Fax: (703) 852-4582. Periodicals postage rates are paid at New York, NY 10079 and additional mailing offices. POSTMASTER: Send address changes to Radio World, P.O. 8ox 282, Lowell, MA 01853.

REPRINTS: Call or write Caroline Freeland, 5285 Shawnee Rd., Ste. 100, Alexandria, VA 22312-2334; (703) 852-4600; Fax: (703) 852-4583

Globe graphic ©iStockphoto.com / Edward Grajeda





"OP-X is very functional and easy to use. One of the best features is the log merge. On our old system it took minutes and with OP-X it takes seconds."
-John O'Dea, Cps Mgr
WNNK-FM, Harrisburg, PA

- Modular Operation in Op-X allows for a tiered system at a fraction of the cost of it's competitors.
- Each studio client is capable of accessing all Audio Server modules on the network.
- Remote voice-tracking allows for creation of content for remote studios also running Op-X.
- The revolutionary design of Op-X's clock builder turns the previous task of scheduling satellite programming into a few simple clicks.
- Share serial devices from any machine using the Op-X Serial Server.
- Importing logs now gets its own module that takes confusion out of the process.
- Engineers will enjoy Op-X because it's easy to install, maintain, and has automatic backup features.

AUTOMATION

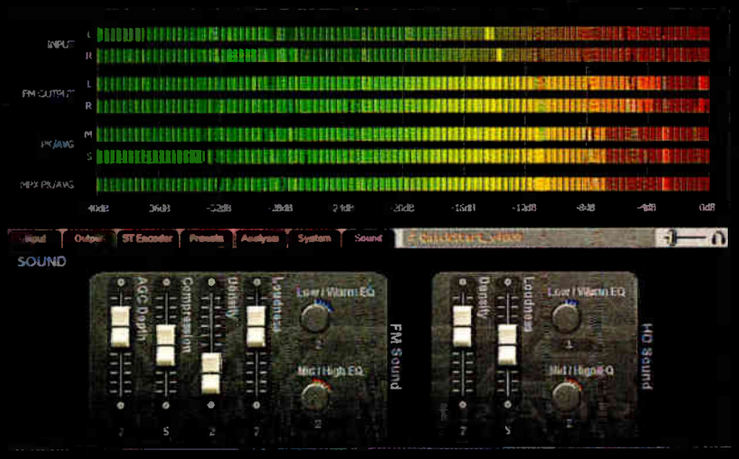
SIMPLE • POWERFUL • REDUNDANT

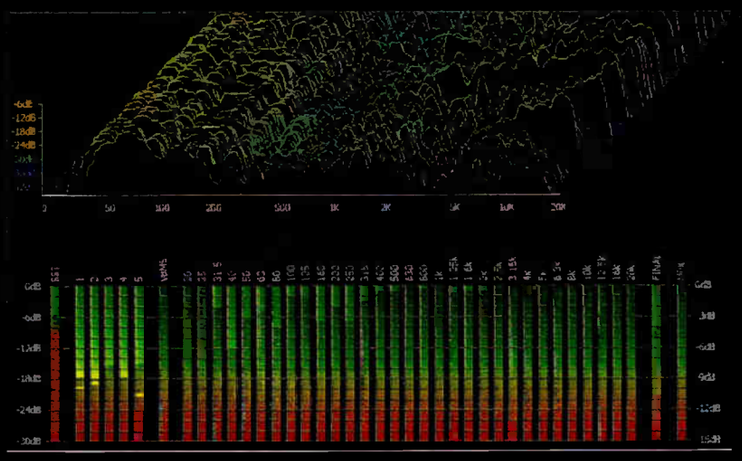
Not since Axia audio-over-IP *was introduced to the broadcast industry have we at BGS been so excited! It is with great enthusiasm we'd like to invite you to take a look at the new Op-X Radio Automation delivery system for any single or multi-station cluster. Op-X's versatility allows it to operate seamlessly with either Axia IP-Audio networks or legacy audio consoles.*

Op-X RADIO AUTOMATION

Broadcasters General Store
352-622-7700
www.bgs.cc

VORSIS AIRAURA DIGITAL SPECTRAL PROCESSOR





Real Comments From Real Users About Vorsis

Just wait until they get their hands on AirAura™

WHEATSTONE VORSIS

phone 1.252.638-7000
www.vorsis.com | sales@wheatstone.com

IT'S TIME YOU WON THE RATINGS WAR

"I am giving the Vorsis development team a BIG thumbs up as this product stands out as a very SUPERIOR audio processor design."

"This processor is amazing!"

"I have the HD output feeding our web stream encoder, and two national program hosts at remote locations in the US have told us 'your audio stream sounds incredible!'"

"I can say that the Vorsis processor does NOT sound like the "O"ther guys! It sounds far better and has a very unique 'signature'. I really, really like how this processor sounds! Every other station in the market sounds like crunched up FM radio while our station is loud now and yet it still has "life" with CD quality dynamics and punch."

"I've listened to the station since the first few days after the format flip (which was a month ago yesterday), and the one thing I notice most is that the new Vorsis processor's audio quality is always terrific, regardless of the source material."

"If the Vorsis that I heard while you were testing processors last night is your final air chain (it was) it might just be the cleanest and best sounding FM I've heard since...well, forever. Great work!"

"Thanks for a great sounding box that makes us sound bigger than the so called big stations!"

"Your Sweet Spot Technology AGC has the most invisible gain correction that I have EVER heard in ANY on air processor. Listeners have been calling to compliment us on the improvement in our on air sound."

"We've used your product close to a year now and it's just out of this world. When we put the Vorsis box online our audience noticed the difference instantly and started calling asking questions like 'What's going on? What did you all do? Your sound is clear, crisp, and bright and the audio sound level is great now!!!'"

"The music sounds great, and this box can be tweaked to anyone's preference. There is a lot to discover in this machine.....but our single biggest achievement has been achieving the clearest, cleanest 'voice' I have ever heard come from an FM processor."

"I am extremely impressed with the unit's capabilities and how well it performs with our NPR talk/Classical format."

"What an amazing difference in sound quality!!! This is a brand new FM station and comparing it to the other new station in town using the Other brand of processor our client is louder, cleaner, and even legal. Wheatstone definitely has a winner here with Vorsis."

"This is a great sound and we are so, so pleased with our new Vorsis on-air processor. You just threw down the gauntlet to the processing industry with this new unit! Nobody can match a sound this loud, this clean, and this unique! Now everybody gets to chase after us for a while. Thanks Vorsis!!"

"Our signal used to virtually disappear in downtown New York when we went on night pattern because of the extremely high level of man-made noise. Now when we're on night pattern our coverage in downtown is actually better than when we are on day pattern, the other brand of audio processor and a 10X higher powered transmitter! We're buying a second one to put on our daytime transmitter!"

"You have to be kidding! I have NEVER heard FM audio sound this good, this detailed, this smooth, this clean, and this loud (now did you do it???). Very nice work!"

"Love the box!!! Overall the sound of the station is vastly improved. It's loud, wide and clear."

"I guess the only word for Vorsis is 'WOW.' It's got some great bottom end, and it's more transparent than any processor I've heard."

"The AGC/Compressor/SST combination is simply amazing. We play classical CDs. Older classical CDs were mastered at a much lower level than current ones. Announcers don't compensate and never will. Your processor is able deal with what amounts to probably 40-45dB (or more) "average" level variations and hold them perfectly in the sweet spot with virtually no squashing, pumping, sucking, or other usually audible artifacts of such wide range level control. In short it does its job perfectly every time."

"This box sounds much better than any other processor I have ever tried. Ever!"

"I love classic rock and it's the program format on the station that I own. No other processor that I've tried (and I think I've tried them all!) sounds as good on this format. We're nice and loud and still cleaner than the other stations in the market. We were surprised to hear the intentional dynamics of songs actually get on the air – other processors just flatten them out or turn them into a sea of mush. For the first time ever we're also hearing subtle nuances in songs that we used to think we knew every single note of. What an amazing air sound! No.... What an amazing processor!!"

"The SST algorithm is the least audible of ANY processor I have ever had experience with. I'm not sure how you did it or exactly how it works but its automatic "leveling" is excellent – no pre-processing whatsoever is necessary with SST."

"The high end of this processor is very open sounding – there is no fake "sparkle" with the HF EQ either. Perfectly clean and natural sound. And did I mention LOUD?"

"Your equalizers are actually useful and unlike other processors do not grunge-up the sound merely by enabling them."

"Finally! A processor that deals effectively and transparently with overly-sibilant announcers and audio levels that usually go all over the place! (I especially love the tweak-able multi-band thresholds!)!"

"Why haven't the other audio processor companies been able to make an AM box that sounds this good? I can't think of a positive superlative that is big enough to describe how pleased I am with our AM sound now. Our coverage seems to have increased by quite a bit too!!

"Our multipath is Gone! GONE! As an engineer I have difficulty believing a processor can make this much difference in apparent coverage area but the listening is the proof. We've had several listeners call and comment that their reception has greatly improved and even I've noticed vast improvements when driving through what were previously horribly multi-path prone areas. I'm not sure why, but it sure does work!!"

"This box has great metering and excellent analytical tools – you get good visual indication of everything that is happening inside."

"The unit's stability has been flawless, not even a tiny glitch. We have it set up to time-sync and it works great. The scheduler-based (and SILENT!!) preset switching is perfect! Unit sounds very accurate sonically and is very easy to set-up."

"We are now VERY unique in our audio. Compared to other stations in the market, we are as loud yet maintain legal modulation (at least 4 stations in our market run with 130%+ modulation). We're not "squashed" sounding at all and if you compare us with the other stations (all formats) we're clearly a dynamic and clean stand-out signal on the dial now."

NOTE: We aren't naming names because everyone who is reaping the rewards of sounding better appreciates their anonymity (with respect to the competition). We won't blow your cover, either.