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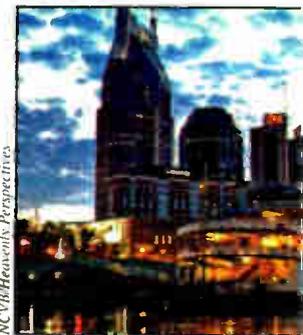
A Move to OEM

Aside from all the merger talk, there are new Sirius and XM receivers coming on the market.

Page 10

Media Ministries Meet

Christian stations, like other broadcasters, are redefining themselves as audio content providers as they convene in Nashville.



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Radio World

\$2.50

The Newspaper for Radio Managers and Engineers

March 1, 2008

INSIDE

NEWS & ENGINEERING

▼ Radio World settles into its new digs.



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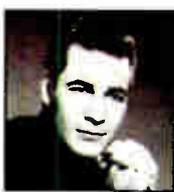
▼ Proper mounting and orientation of Austin Ring Transformers.

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▼ New gear ships out for Utah Public Radio, Texas A&M Athletics, Greater Media in Philly and others. Who's buying what?

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GM JOURNAL



▼ The late Hy Lit was an icon of Philadelphia radio for decades.

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▼ Mark Lapidus doesn't understand why everyone is taking their frustration out on the promotions department.

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OPINION

▼ Paul Gathard of Barnabas Road Media says broadcast radio should embrace the new per-performance reporting requirement.

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▼ Broadcasters will adapt to new audience measurement techniques once they're in place and stable. Radio will be the stronger for it.

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United States Says Its WRC Goals Are Met

by Randy J. Stine

WASHINGTON The leader of the United States delegation to the World Radiocommunication Conference says the group succeeded in protecting this country's spectrum interests while plotting a course for growth of spectrum services and technology.

Ambassador Richard Russell, deputy director for technology at the Office of Science and Technology Policy at the White House — who was appointed to

the WRC-07 ambassadorship by President Bush — said the U.S. delegation included representatives from the FCC, Federal Aviation Administration and Department of Defense. Private sector individuals made up nearly half of the 150 U.S. attendees. [See related story, page 6.]

As a member of the United Nations, the U.S. has representation in the International Telecommunication Union, which manages international use of

See WRC U.S., page 5 ►

Copper Theft Knows No Market Limits

While States Adopt Changes in Law, Stations Share Tips to Deter 'Hot Wire' Crime

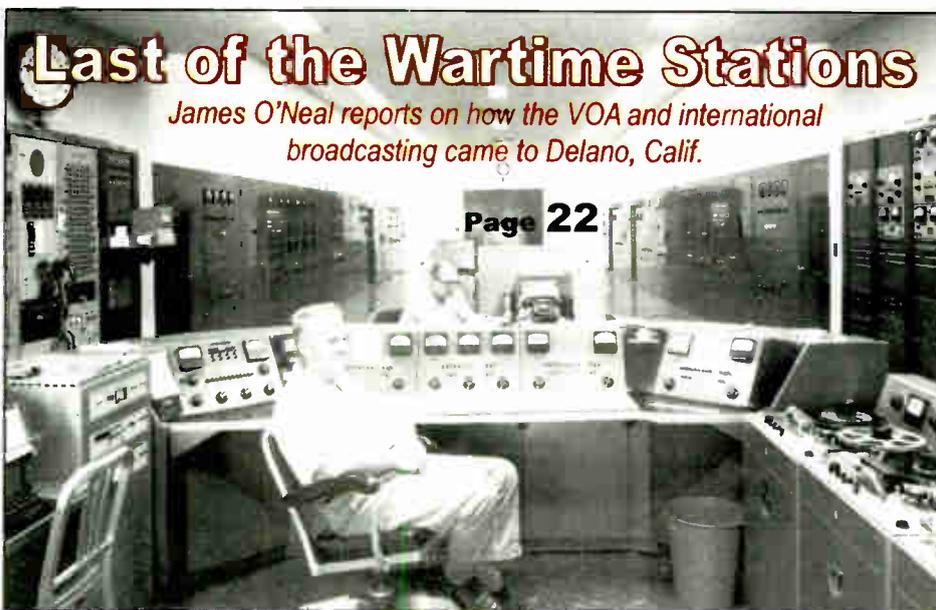
by Randy J. Stine

TALLAHASSEE, Fla. It's difficult and not desirable to build or operate a modern transmitter site without at least some copper. However, that shiny wire and tubing is attractive to thieves who steal it and resell it to scrap metal dealers for anywhere from \$2.50 to \$3 a pound.

Florida legislators are eyeing get-tough measures to stop copper thieves from ransacking vulnerable and often remote broadcast sites and reselling the scrap metal.

The huge worldwide demand for copper and other non-ferrous metals has triggered what some say is an epidemic of scrap metal thievery, which in turn has led as many as 20 states to adopt laws

See COPPER, page 10 ►



Last of the Wartime Stations

James O'Neal reports on how the VOA and international broadcasting came to Delano, Calif.

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◆ NEWS WATCH ◆

Alliance Seeks Conditions on Merger

WASHINGTON The HD Digital Radio Alliance backed Ibiqity Digital in comments about the proposed satellite radio merger.

The group says if the FCC approves the deal, XM/Sirius should be required to include HD Radio in all future receivers; also, exclusive deals with automakers, suppliers and retailers should be prohibited.

The alliance says a merger would limit

consumer choice and "at this point in its development, HD Radio cannot be considered a competitive alternative to satellite radio." The merger, it continued in comments to the commission, would make it more difficult for HD-R to expand consumer choice.

While "substantial resources" have been devoted to marketing HD-R, many obstacles must be overcome before it achieves widespread consumer adoption, the group says.

"In particular, the availability of HD Radio as a factory-installed (or even factory-authorized) option in automobiles is very limited. As it stands now, there are just two OEMs that currently offer HD

Radio as a factory-installed option, and four others that have announced plans."

The alliance continued: "In contrast, 17 OEMs offer Sirius exclusively, 18 offer XM exclusively and six offer both ... i.e., 41 major auto and motorcycle manufacturers offer factory-installed satellite service, an overwhelming majority of the market."

In addition, a combined satellite radio entity would have "an unprecedented" amount of spectrum, whereas the amount available to terrestrial broadcasters is capped by regulation at levels "well below" what it would take to match the combined company's allotment. That's true even with the addition of HD2 chan-

nels, available only to the "very few" customers who have an HD Radio, it said.

"This inequality of spectrum ... could make it almost impossible to persuade the automobile OEMs to find a secure place in the dashboard for HD Radio."

Increased FM IBOC Power On Tap?

WASHINGTON NAB said it would ask the FCC to approve, on a voluntary basis, a digital power increase of up to 10 dB for FM stations broadcasting in HD Radio.

The intent is to get digital coverage to better match the analog without causing harmful interference on neighboring first-adjacent channels. Proponents want to improve the building penetration of digital signals for better HD-R receiver performance.

According to sources, Ibiqity, CBS Radio, Greater Media and Clear Channel Radio have conducted tests on higher-powered FMs. Hammett & Edison reportedly confirmed the Ibiqity field test results of digital coverage improvement with an increase in digital FM power, and agreed that the increased interference to first-adjacent channel analog reception is "tolerable" in most cases.

The NAB Radio Board approved a resolution recommended by the NAB Digital Radio Committee in January.

News Roundup

ROWLAND KRAFT: Baltimore engineer J. Rowland Kraft Jr. died. He was Baltimore SBE chapter Chapter 46 frequency coordinator.

BALSYS GROUP: In Florida, Balsys Group and SystemsStore relocated to larger spaces to accommodate growth in systems integration and product distribution. Reach the Balsys Companies at 890 Carter Road #150-160, Winter Garden, FL 34787; the phone is (407) 656-3719.

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Satellite Radio Category Matures

Receiver Market Was Relatively Subdued This Winter, as It Awaited Word on Merger

by Leslie Stimson

LAS VEGAS Satellite radio is undergoing a sea change as more of its receiver sales shift from aftermarket to OEM-originated.

XM Chairman Gary Parsons has said he expects 40 percent of new vehicles to carry satellite radios in 2008, compared to 20 percent in 2007.

In years past, XM and Sirius had several product announcements and exciting press conferences at the CES convention. This year, there were no press conferences at the winter show. The companies spent less money on booth space and signage didn't discuss much about their proposed merger, except to say they hoped the feds approve it.

Audiovox, Directed Electronics, Audio Design Associates and Samsung introduced XM products.

Sirius had a booth at the show, unlike last year; it also again shared space with Directed Electronics, which introduced Sirius products, as did Audio Design Associates.

Sirius did not announce any of its own branded products, although it did display Sirius Backseat TV in an SUV. The service will be available for \$6.99 a month in

addition to a Sirius subscription of \$12.95 per month. antenna, and some 18 hours of battery life are marketed as features that make the unit portable. The XMBB1 will retail for just under \$100.

The second product, the XM Compact Sound System, is a tabletop unit to fit smaller spaces like a night table, kitchen counter or desk. It has four speakers, a four-channel enhanced digital audio

eight-source, eight-zone (16 channel) unit intended to drive a multi-room audio system.

ADA says this unit uses a class A/B amplifier that outputs 25 watts per channel whereas its predecessor, the Suite 8100, used a class D amplifier.

The installer tells the factory which two tuners will be integrated into each Suite 8200 ordered. Tuner options include XM, Sirius or HD Digital AM/FM/WX Radio. Users can order



Sirius Backseat TV in an SUV. The service will be available for \$6.99 a month in addition to a Sirius subscription of \$12.95 per month.

29,344 products in stock at press time!

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addition to a Sirius subscription of \$12.95 per month. Users will also need a video monitor or entertainment system sold separately. A spokeswoman pegged availability by the end of March.

XM INTRODUCES SYSTEMS FOR PORTABLE, DESK LISTENING

Audiovox unveiled a third generation of XM docking speaker systems. The two universal systems are designed for home and office environments.

Distributed by Audiovox, the XM Sound System has two woofers, two tweeters, bass boost and a 10 watt RMS amplifier. It includes an Audio In jack for playing an iPod/MP3 or CD player. A foldable handle, internally stored XM

processor, bass boost and a 16 watt RMS amplifier. The unit also includes the jack for playing an iPod/MP3 or CD player. The XMAS100 will list around \$150.

Both systems work with a variety of XM radios, including the RoadyXT, SKYFi3, XpressEZ, Xpress, XpressR and XpressRC, as well as the Inno and Helix with an optional adapter, sold separately.

These sound systems will be available in retail and at www.xmradio.com.

The XM Sound System has not been authorized as required by FCC and will not be sold until authorization is obtained, the company said.

ADA SHIPS SUITE 8200

Audio Design Associates is shipping the Suite 8200 multi-room receiver, an

either two of the same or mix and match. Suite 8200 retains the 2U rack height. It lists for just under \$5,000.

For whole-house remote control, Suite 8200 is iPod-compatible and works with the company's family of keypads, touch screens and IR remotes.

ACOUSTIC RESEARCH ADDS XM MINITUNERS

Acoustic Research is adding an embedded slot to accept XM MiniTuners to two tabletop radios. The units, due in Q1, also feature embedded iPod docks.

The XM-50 features AM/FM analog reception while the XM-C90 further adds a CD player.

See SATELLITE, page 12 ▶



Distributed by Audiovox, the XM Compact Sound System is a tabletop unit to fit smaller spaces like a night table, kitchen counter or desk.



Audio Design Associates is shipping the Suite 8200 multi-room receiver, an eight-source, eight-zone unit intended to drive a multi-room audio system.

In With the New, With Mixed Feelings

Greetings from Radio World's new home.

After many years in a gritty six-story brown brick building at Bailey's Crossroads in Northern Virginia, RW has moved — along with the rest of the former IMAS publications that shared the space — to a bright, fresh new office environment in Alexandria a few miles away.

I won't miss the ugly battleship gray walls of 5827 Columbia Pike, its cranky elevators, dangerous parking lot and intrusive car alarms from the Acura dealer next door.

Honestly the place was dumpy. When rain fell hard and the wind blew, water literally ran down the walls at times. The exit from our parking lot onto the Pike was life-threatening.

However a lot of RW history walked through those third floor editorial and production offices. And the building holds strong personal associations for me, such as the day I sat in Marlene Lane's office and was hired in 1996, or the many "final proofs" the RW staff held gathered around a newborn issue of Radio World on a worn office table.

Certainly I'll never forget the morning we learned about the events of Sept. 11, 2001 — first, of the attacks in New York, then with further horror about the crash of Flight 77 into the Pentagon, just four miles up Columbia Pike from us. We raced to the rooftop to watch the column of smoke rise and fire engines pelt by.

I also have a strong attachment to the old building because it sits on history.

One of the two roads that make up Bailey's Crossroads had been a buffalo trail centuries ago, and Native Americans used it. George Washington later owned land there. In the 1800s cattle and their handlers wore down the second road, the "Washington Graveled Turnpike," heading toward the Potomac River.

The crossroads were winter headquarters for the Bailey circus family (yes, of Barnum & Bailey fame), who gave the intersection its name.

Confederate and Union troops faced each other on nearby land early in the war; a rebel flag flying on a neighboring hilltop could be seen from the White



Radio World's new home.

House. After the first battle of Manassas in 1861, the largest troop gathering in the country's history to that time happened right outside my old office window when Abe Lincoln and his cabinet reviewed 60,000 Federal troops under Gen. George McClellan.

Julia Ward Howe was there that day — right where I would visit the post office and gas station. She wrote the words to the "Battle Hymn of the Republic" that night to the tune she'd heard soldiers singing.

So I'll miss the old place, or at least its associations. But it sure felt great to purge files, drawers and cubbies, just like when you move your home. The process is a pain, but when you're done it feels great.

Our new space is a super home for us: clean, well-lit and -managed. Visitors can reach us more easily from I-95/395, Reagan National and Dulles airports and downtown Washington. Most employee commutes are easier. We have better IT and phone systems, a safe parking area and a facility that presents a professional face.

All of our Virginia staff are in one concentrated work area now. When we final-proof Radio World, we do it on a long, new, clean tabletop near work areas that are shared by editorial, production, sales and circulation. We have a deli next door for hot morning coffee and lunch.

The place just lacks the character that

comes with long association. But I'll give it a little time. Perhaps someday I'll come to feel as strongly about the place — love it, loathe it, or love to loathe it — as I did about the old one.

★ ★ ★

We continue to transition our systems, including e-mail addresses and so forth, and we're still settling into our new relationship with parent NewBay Media. At times the transition has been a little bumpy; bear with us if that happens. But your familiar RW team is right here, and we have exciting further improvements coming that will be more visible to you. Stay tuned.

Our new mailing address is Radio World/NewBay Media, 5285 Shawnee Road, Suite 100, Alexandria, VA 22312-2334. The main phone is (703) 852-4600; you can reach me at (703) 852-4628.

Editorial e-mail goes to radioworld@nbmedia.com; or you can write me personally at pmclane@nbmedia.com. Other staff e-mails follow the same format.

★ ★ ★

We've written a lot about "green radio" lately, including a new series by that name.

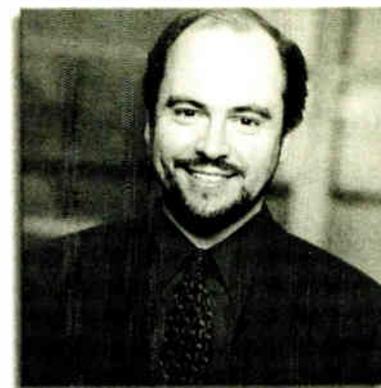
Thanks to RW Production Publication Coordinator Karen Lee, RW's recent move was more environmentally friendly than it would have been otherwise. Hearing that we planned to trash or give away a significant amount of old furniture and supplies, Karen — who hates waste — swung into action using Freecycle and Craigslist. Soon a procession of visitors came to the office and claimed more than 200 unwanted items.

"All were cheerful and very grateful to be given such treasures," Karen said. "It was wonderful and amazing to see so much of our office go to new homes instead of the landfill. IMAS will live on all over Northern Virginia."

About 50 filing cabinets were single-handedly taken and distributed to families by the executive director of Parents of Autistic Children of Northern Virginia.

A \$20,000 scanner, destined for a landfill, has a new home in Arlington and

From the Editor



Paul J. McLane

will be used to scan large maps for government archiving. The company also took chairs, chair pads, tables, CD cases and old fax machines.

Older computers, office supplies and furniture will help the Tinner Hill Heritage Foundation build a museum/cultural center that teaches about and honors the accomplishments of civil rights pioneers Joseph Tinner and E.B. Henderson. Other computers and furniture will be used to provide computer training to people with disabilities at the Laurie Mitchell Employment Center.

Old CD cases will be reused as puzzle cases in an interpretive project for visitors to Potomac Overlook Regional Park. Many plants found a home at Corpus Christi School on Glen Carlyn.

Contents of a "junk table" that blossomed as we purged offices were donated to the Lupus Foundation. A time clock, white boards, file folders, bookcases and more are being used by a daycare, a wildlife artist, a painter, an origami and stained glass enthusiast, a community in Arlington committed to building a sustainable, violence-free culture and many, many parents.

If your station is moving and plans to discard a lot of items, this is a great alternative. Visit www.freecycle.org.

Karen said, "I encourage everyone to join. Freecycling is easy; it's usually done via your doorstep; you may never have to see anyone in person. People post the weirdest things sometimes, but someone usually wants them."

"It's really true that your trash is someone else's treasure." 🌱

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WRC U.S.

► Continued from page 1
radiofrequency spectrum and sponsors the WRC. Private entities can attend the conference but do not hold voting rights, Russell said.

Domestic terrestrial radio broadcasters faced few implications during the recent WRC, Russell said, calling it the "status quo" for AM and FM spectrum in this country.

Wireless, mobile coordination

"There really wasn't much on the table to change any of the parameters there. The spectrum used by American radio broadcasters is unchanged," Russell said.

Despite the lack of major spectrum issues for the U.S. radio industry, WRC-07 did set important rules coordinating wireless and mobile services, specifically the rollout of WiMax services and devices in the country, Russell said.

Identifying new spectrum for International Mobile Telecommunications and ensuring that WiMax was included in the definition of that was a key goal of U.S. representatives, Russell said.

Russell said the U.S. worked with partner countries to reach a centralized position to identify the 700 MHz band for IMT rollout. The U.S. targeted the 700 MHz band, eventually to be abandoned by UHF TV Channels 52 through 69.

The conference "harmonized" global use of IMT services in the UHF frequen-

cy blocks of 450-470 MHz, 698-862 MHz (in ITU Region 2, which encompasses the Americas), 790-862 MHz (in ITU Regions 1 and 3), as well as at 2.3-2.4 GHz in the S band. The 3.4-3.6 GHz portion of S band was not set aside as a global allocation, but its use is accepted by many countries.

"We were successful in ensuring the [IMT] definition was broad enough to include WiMax and other wireless broadband applications. We want as many new services and technologies out there. It's good for our economy and good for consumers," Russell said.

Individual countries will be able to choose when 700 MHz can move from broadcast-only spectrum to other services, he said.

"With most of the world transitioning from analog to digital TV, we thought this was a great opportunity to identify that band as a good band for IMT both right now and in the future," Russell said. "This now opens the market for development of more services, which should lower costs."

Russell said the C Band was "on the table" at WRC-07, with the U.S. supporting efforts to allocate the 2.3-2.4 GHz block of the S band for IMT wireless mobile services instead. Delegates approved the move during the final week of the conference.

"Our position was that the C band is an incredibly important satellite and radar band and that it would be very difficult to coexist with IMT services. We managed to craft an excellent result wherein there will be no identification for IMT in the C

band at all in the Americas, and only in the lowest portions of C band for the rest of the world," Russell said.

U.S. broadcasters often use the C band to uplink and downlink program material via satellite. Russell said consensus among the delegations yielded a result with which the U.S. group was happy.

Further protection of mobile telephony spectrum at 2.5 GHz, Russell said, was viewed as another key aspect of WRC-07 for U.S. interests.

"There was concern that, specific to the rollout of WiMax, there could be harmful interference from satellite services that could hinder growth. We looked to establish very stringent limitations that would preclude or virtually eliminate the chance for interference," Russell said. "We were satisfied with the consensus we finalized."

C-band compromise

He addressed speculation that the FCC was less involved than usual in preparations for the WRC due to disagreements between some within the U.S. delegation over the use of the 700 MHz block. Media reports that only low-level FCC officials attended WRC-07 "are off base," he said.

"Commissioner Deborah Taylor Tate, along with the head of the [FCC] International Bureau and deputy head of the bureau, attended," Russell said. "The FCC strongly supported the U.S. positions on 700 MHz and in Geneva its staff was instrumental in achieving the ultimate favorable outcome at WRC."

Russell denied several foreign media

reports that indicated WRC delegates voted to find U.S. transmissions into Cuba illegal.

He said that Cuba, which typically complains about Radio and TV Martí causing interference with its domestic broadcasts, failed in its attempt to move forward a proposal at the conference to limit airborne broadcasts by the service.

"It was determined the Cuba plan was unworkable. There was no vote and the WRC did not adopt anything to indicate the U.S. is doing anything illegal," Russell said.

Radio Martí is a radio and TV broadcaster funded by the United States government based in Miami that transmits Spanish-language broadcasts into Cuba.

Going forward, Russell expects "cognitive radio" technology to play a significant role in easing some of the spectrum restraints most countries are facing. Cognitive or so-called "software" radio is technology that can allow devices to determine what frequencies are being used and which are open to permit the transmission or reception of data.

"There is a lot of excitement about it. Everyone understands that spectrum scarcity issues are a concern both nationally and internationally," Russell said. "With demands for spectrum increasing, we may not be able to generate new spectrum, but we can better use it and use it more effectively."

The concept of using cognitive radio to ease spectrum congestion is already on the agenda for the next World Radiocommunication Conference scheduled for 2011. 🌐

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WRC Delegates Settle on IMT Regs

Wireless, Mobile Telephony Services Set at Global Conference; DRM Broadcasts Okayed for 'Tropical Zone' Band

by Michael Hedges

GENEVA Broadcasters have received a respite in the war with mobile telephone operators over scarce and valuable spectrum — the result of the month-long diplomatic conference on worldwide telecommunications that closed in November.

The World Radiocommunication Conference 2007 was held in Geneva, Switzerland, under the auspices of the International Telecommunications Union. A total of approximately 3,000 delegates

from 160 countries debated proposals on virtually every spot on the spectrum.

The ITU is the United Nations organization for coordination of use of the radio spectrum.

"Everyone will benefit from the digital dividend that will emerge as a result of this conference," said new ITU Secretary General Hamadoun Touré.

Far and away the most important discussion to delegates was setting rules for wireless and mobile services. Several proposals drafted over the past four years had raised serious concerns among

broadcasters.

Diplomatic conference rules adopted by WRC07 have the force of an international treaty. As such, the "Radio Regulations" treaty governs all radio frequency spectrum allocations and satellite orbits and is updated every four years.

Discussions about Band C attracted



considerable attention as national delegates, in regional blocks, debated present and future use for satellite users' most widely coveted spectrum block, 3.4 GHz to 4.2 GHz. The proposal was to reallocate Band C for use by International Mobile Telecommunications, wireless mobile services like WiMax.

European mobile telephony

Radio and TV broadcasters, including those in the United States, make extensive use of Band C for uplinking and downlinking in Regions I and II as well as for direct consumer reception in Region III.

These broadcasters cite engineering concerns about interference issues from high-power and highly packed IMT services. The ITU, however, does not consider Band C to be a broadcast band.

See WRC, page 8 ▶

How WRC, ITU Came to Be

World Radiocommunication Conferences generally are held every two to three years. It is the job of WRC to review, and, if necessary, revise the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and the geostationary-satellite and non-geostationary-satellite orbits.

Revisions are made on the basis of an agenda determined by the ITU Council, which takes into account recommendations made by previous conferences.

The general scope of the agenda of WRC is established four to six years in advance, with the final agenda set by the ITU Council two years before the conference, with the concurrence of a majority of member states.

Under the terms of the ITU Constitution, a WRC can: revise the Radio Regulations and any associated frequency assignment and allotment plans; address any radiocommunication matter of worldwide character; instruct the Radio Regulations Board and the Radiocommunication Bureau, and review their activities; determine questions for study by the Radiocommunication Assembly and its study Groups in preparation for future Radiocommunication conferences.

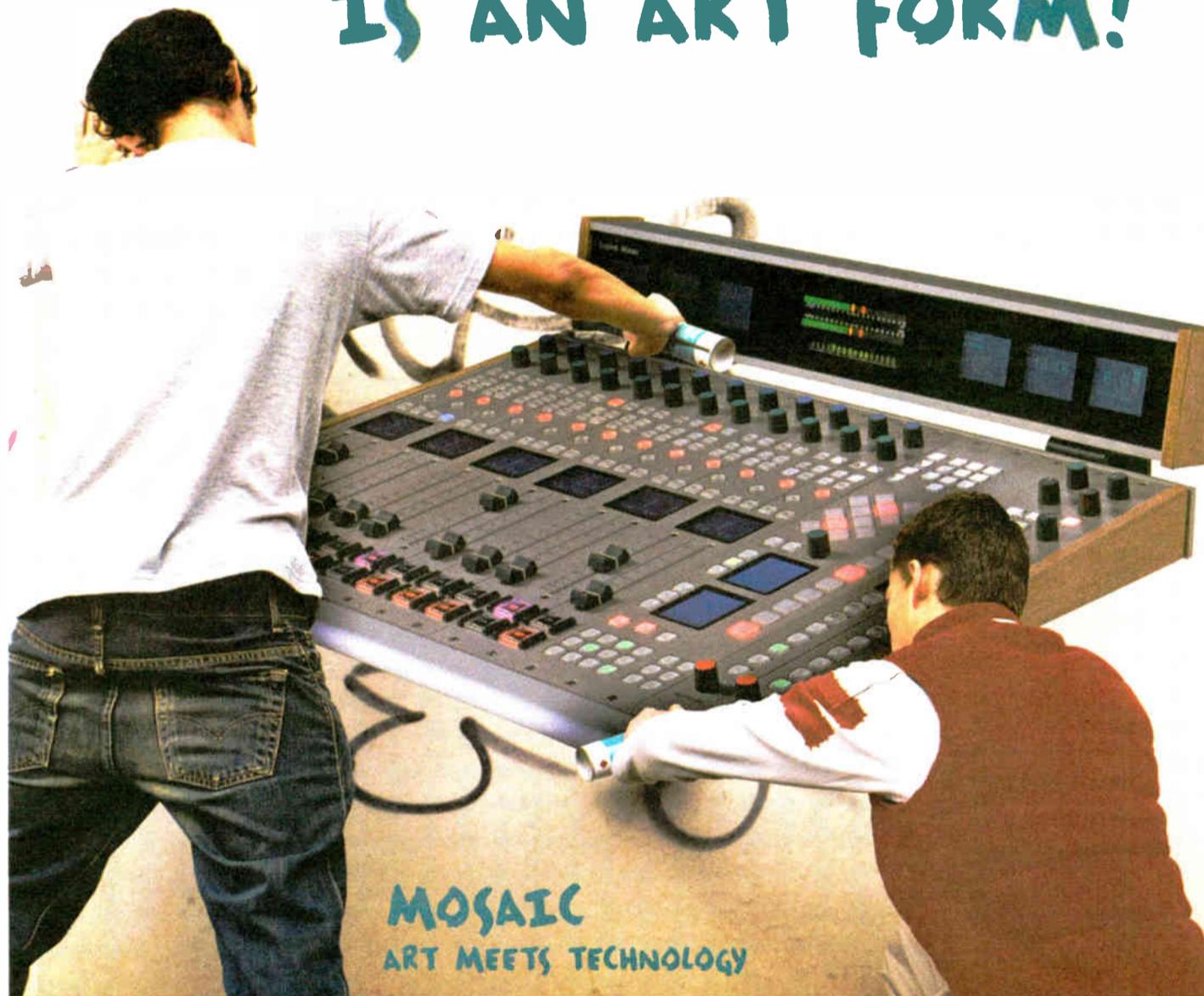
WRC was preceded by the International Telecommunication Convention, formed by the merging of the International Telegraph Convention and the International Radiotelegraph Convention in 1935. These groups, in turn, were preceded by the International Telegraph Union, formed in 1865. At that time, telegraphy had been available as a service to the general public since around 1855.

In those days, however, telegraph lines did not cross national borders. Because each country used a different system, messages had to be transcribed, translated and handed over at frontiers, then re-transmitted over the telegraph network of the neighboring country.

Many countries decided to establish arrangements to facilitate interconnection of their national networks, leading to these predecessors of the ITU.

Adapted from the ITU Web site, www.itu.int/net/about/history.aspx.

GREAT RADIO IS AN ART FORM!



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Logitek helps your talent bring that art to life with the Mosaic digital console. This versatile, flexible control surface for our powerful Audio Engine router can manage your most challenging on-air or production requirements while providing the reliability and ease of maintenance that your busy operation requires.

Mosaic consoles are available in a variety of frame sizes to accommodate studios of all dimensions, and useful interfaces are available for guest stations and simple router control.

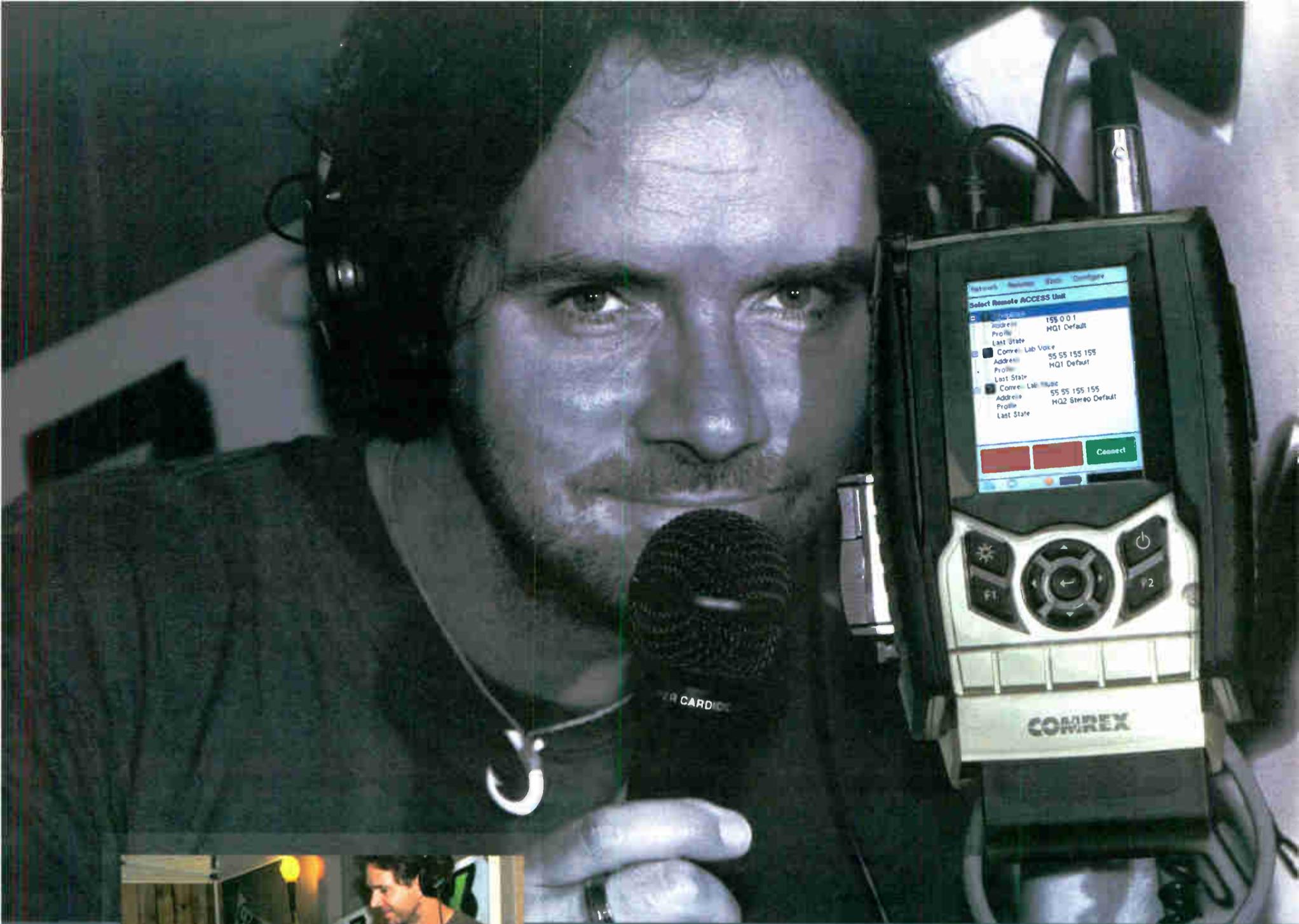
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Shark, shown interviewing BERT MCCRACKEN, lead singer for THE USED, says: "When Comrex told me that their internal code name for ACCESS was "THE NEXT BIG THING" I got it right away. This IS BIG – I was live, on the air, in places I could NEVER have gone with regular old technology. THANKS COMREX!"



ACCESS

Impossible Remote? Nah, You've Got ACCESS.

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Live coverage of *Next Big Thing 7*, Tampa's 15-band, two-stage, 20,000 screaming fan concert, seemed daunting. But it couldn't have gone smoother for Shark, Cox Radio's 97X Program Director and afternoon host. When covering an event like this, Shark would normally be battling for a frequency with all the wireless mics, and getting back stage to interview all 15 bands with a live wired mic was just impossible. ACCESS pulled it off without a hitch. Shark went live with the push of a button and not a care in the world. Covering even the gnarliest live event is a natural for ACCESS.

ACCESS delivers mono or stereo over DSL, Cable, Wi-Fi, 3G cellular, satellite, POTS (yep, ACCESS is a full featured POTS codec and works seamlessly with Matrix, Vector and Bluebox)—plus some services you may not have even heard of. Given the challenges of the public Internet, it's no small boast to say that ACCESS will perform in real time over most available IP connections.

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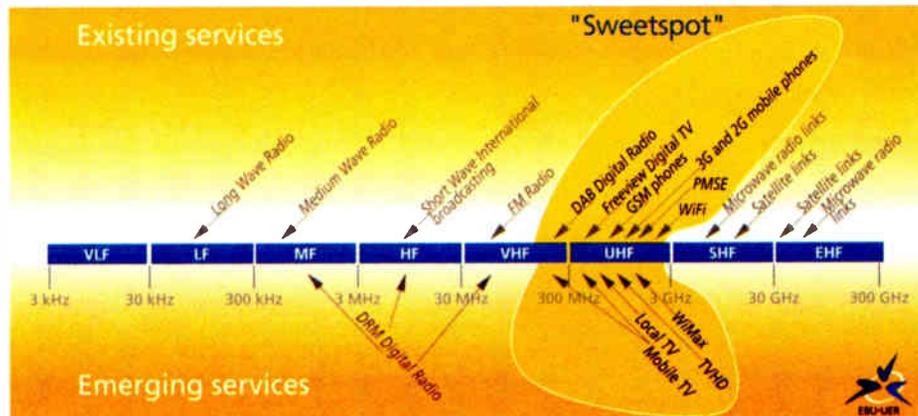
WRC

► Continued from page 6

Another WRC07 agenda item would open Bands IV and V (470 MHz to 862 MHz) to mobile telephony in Europe (east to Mongolia), Africa and parts of the Middle East — ITU Region 1. Currently these blocks are allocated to broadcasting in all ITU regions. Region 2 includes North and South America. Region 3 includes Asia, Iran and Oceania.

Broadcast organizations, led by the European Broadcasting Union, mounted a strong opposition, citing troubling interference issues.

EBU Technical Director Lieven Vermaele, in a press briefing during the



ITU Spectrum Chart

700 MHz band, by February 2009.

WRC07 concluded by approving IMT allocations worldwide in the 450–470

Everyone will benefit from the digital dividend that will emerge as a result of this conference.

— ITU Secretary General Hamadoun Touré

WRC07's final week, noted the successful uptake of broadcasting services in these spectrum blocks. "However," he added, "this success story could be jeopardized by the introduction of mobile phone services in broadcasting frequency bands."

In 2005 the FCC passed a law requiring television broadcasters to abandon analog UHF Channels 52 through 69, a large block of Band V, referred to as the

MHz block of Band IV and the 2.3–2.4 GHz block of Band C. Other IMT allocations were far more divided, reflecting successful lobbying from broadcasters and regional constituents.

DRM

The whole of Band IV in Region 2 (Americas) and nine countries of Region 3 (Asia, Oceania) will have IMT alloca-



ITU Secretary-General Dr Hamadoun Touré speaks during the 25th anniversary of the introduction of HDTV in Europe during WRC-07.

tions. The 790–892 MHz block of Band V will have IMT allocations in Region 1 (Europe, Africa) and Region 3.

Digital Radio Mondiale, the digital standard designed for broadcasting below 30 MHz, got a boost from the WRC07 delegates.

Since 2002, DRM had been endorsed



The first plenary session of WRC-07.

by the ITU for broadcasting worldwide in the long-, medium- and shortwave frequencies, with the exception of the "tropical zone" bands.

The conference approved DRM for broadcasting in the 3200–5900 kHz "tropical zone" bands, the frequencies near the lower end of the shortwave spectrum that are reserved for domestic (national) broadcasting.

It includes countries located roughly in latitudes between 30 degrees North and South such as Indonesia, India, Pakistan, Iran, Egypt, Congo, South Africa, Mexico and Brazil.

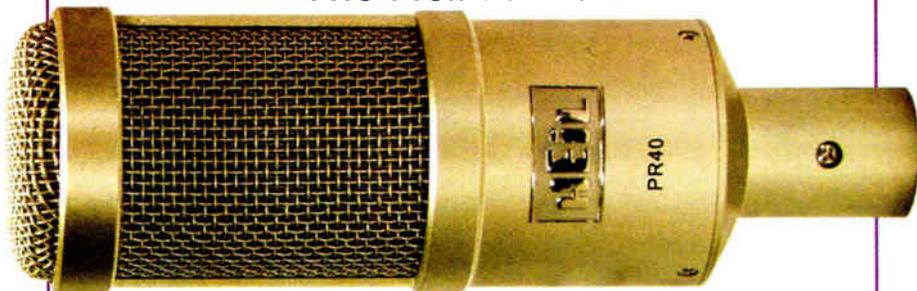
The regulatory achievement opens up another market for DRM and its consortium was pleased that "the recognition of the DRM system is now totally worldwide for all digital radio applications in the traditional broadcasting bands below 30 MHz — long-wave, medium-wave and shortwave" stated Dr. Donald Messer, DRM representative at WRC.

The next World Radiocommunication Conference will meet in 2011.

Also see story, page 1.

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"The PR40 is THE BEST mic I have ever used." -Art Bell

"I suddenly realized that my old studio mics had just become overpriced hammers. These Heil mics blew my mind, but left my budget in great shape." -Dave Hines, US 97, Clear Channel

"I just put in some of the Heil PR 40's replacing Neumann's and I have to tell you man, that's the best sounding microphone I have ever heard for broadcast. Sure made a believer out of me." - Jay Rose KVEG, Las Vegas

"Nobody ever said anything nice about my voice until I started using this (PR 40)." -Leo Laporte

NEWS WATCH

HD-R RECEIVER SALES: Ibiqity Digital President Bob Struble updated the NAB Radio Board on what he termed a "breakthrough year" for HD Radio in 2007.

He reported that HD Radio receiver sales topped 330,000 in 2007, compared to 40,000 the previous year. He thanked NAB for its support of HD-R and urged broadcasters to continue to expand promotional efforts to help boost consumer demand. Caroline Beasley, chair of the HD Radio Technology Advancement Task Force, briefed the board on efforts by that group and the HD Radio Alliance to target auto manufacturers with positive HD Radio messages. The goal is to encourage carmakers to "fully equip" vehicles with an HD Radio.

GERMANY: The organization responsible for setting fiscal policy for public broadcasting in Germany has deemed Eureka-147 DAB unworthy of further investment. KEF stated that receiver options remained limited in Germany and that public support for FM radio and the availability of satellite radio, Internet radio, podcasts and other outlets have changed the nature of radio broadcasting since DAB was envisioned. KEF is calling for the equivalent of about \$246 million, slated to fund public-service DAB projects from 2009 to 2012, to be reallocated to other projects. A consortium of receiver manufacturers, transmitter network operators, program providers and institutions backing the DAB standard warned that the move could mean "chaos."

APRE: The Association of Professional Radio Engineers is accepting nominations for the Second Annual APRE Engineering Achievement Award to be presented at the NPR Labs/APRE Engineering Dinner in Las Vegas. The honor is to be awarded to a single individual for "outstanding contributions" to the art and/or science of radio engineering that have made a "significant impact on, or improvement in" the state of the public radio industry. The award nomination form is at www.nprlabs.org/apre.

MOSELEY: Moseley Associates has moved to a new location after 40 years at its previous site. The new address is 82 Coromar Drive, Santa Barbara, CA 93117. The company's main telephone number remains, (805) 968-9621, as do department phone numbers and e-mail addresses. The company says a new modern facility gives it the additional space it needs to support its product lines.

AM DA SEMINAR: The NAB AM Directional Antenna Seminar is March 6–7 at its headquarters in Washington. Consulting engineers Ron Rackley and Ben Dawson will teach the course, which NAB says was developed to instruct broadcast engineers on the fundamentals of maintaining an AM DA system in the digital age. Discussion topics include "Optimizing Coverage for Analog and Digital"; "Computer Modeling for Routine Maintenance"; "Economic Considerations for AM Antennas"; and "DA Troubleshooting Tips and Tricks." The fee is \$395 for NAB members, \$495 for non-members. Fee includes instructional material, continental breakfast and lunch.

700

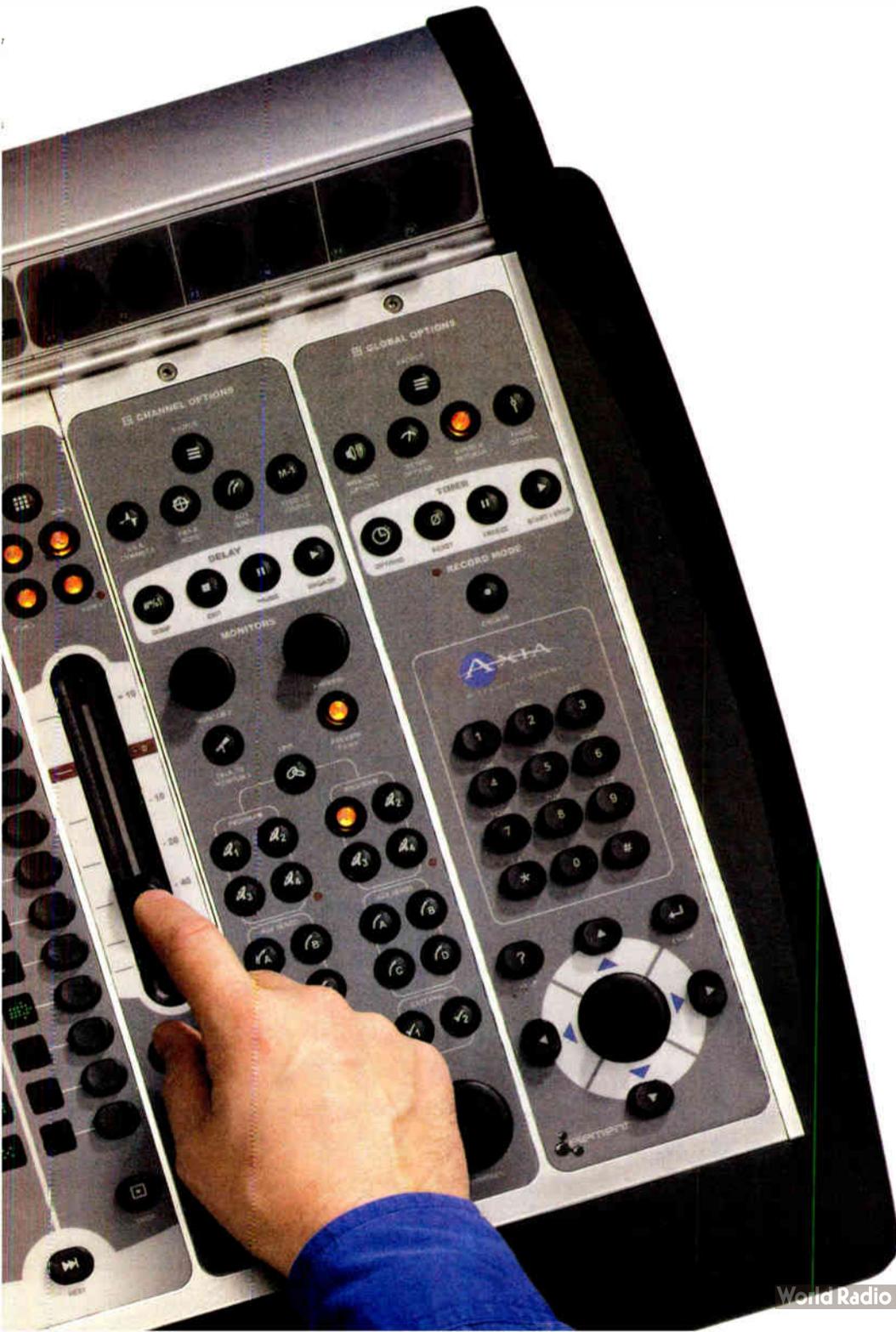
~~500~~ studios already?

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Okay, back to work now. (Consoles don't build themselves, you know.)



www.AxiaAudio.com

Copper

► Continued from page 1

that make it more difficult for the scofflaws to resell their metal, according to the scrap metal industry.

Radio broadcasters here and across the country have been the target of numerous copper hit and runs with air conditioner units, ground systems, transmission lines, utility wires and transmitters targeted by the copper bandits, say those familiar with the problem.

In Florida, religious outlet WTLN (AM), Orlando, was knocked off the air in January when vandals ripped copper from the station's transmitter site. Similar reports have come from broadcasters across the nation as metal prices have soared the past two years.

Minimize losses

Broadcast engineers are making efforts to eliminate attractive targets and minimize losses.

Clear Channel has been hit numerous times all over the country, said Michael Golchert, AM field engineer for the company.

"We've lost HVAC units, copper buss bars, copper grounding straps and even a four-bay ERI rototiller antenna to thieves," Golchert said. "Most markets that have been hit or feel that they are vulnerable have increased security around their facilities."

Counter-measures include keyless passkey security systems, motion sensors inside transmitter buildings, and low-light cameras inside and outside facilities, Golchert said.

Clear Channel stations have taken steps to improve relationships with local law enforcement, he said, in hopes of increasing patrols near remote transmitter sites.

Gary Kline, corporate director of engineering for Cumulus, cited numerous copper theft incidents, including a January event at WICC(AM) in Bridgeport, Conn., where thieves stole



Cumulus' Indianapolis cluster had their air conditioners broken open with condenser and evaporator coils stolen.

copper tubing that supplies propane to the generator.

"Copper tubing was ripped off the regulator and tubing was pulled from the building," wrote Chief Engineer Ed Butler of WICC in a report to Kline. "At some point I think we should look into adding 12-foot fences with razor wire around the buildings."

Sterling Davis, vice president of engineering for Cox Radio, said his radio stations have been hit in several markets.

"Stations are reviewing their security systems to see where we can do better. Really just standard security measures," Davis said.

Brazen Florida thieves

Davis recalled building the KRXI(TV) transmitter sites on a remote mountain near Reno, Nev., and painting external transmission line gray to deval-

ue it a little in the eyes of thieves.

"I've also heard that using tar on exterior ground strap systems helps stop theft because it renders the copper worthless for re-sale," Davis added.

In Florida, brazen copper thieves have been visiting unmanned transmitter sites and gobbling up copper transmission line and coax regularly, said Steve Fluker, director of engineering for Cox Radio in Orlando.

He supports a legislative measure proposed in that state to make it more difficult for vandals to sell stolen copper and other scrap metal.

The legislation, introduced by state Rep. Scot Randolph, would require recycling centers in the state to copy the photo ID of the seller with every recorded sale.

"I would go further and say the law should require the recycling company

to delay the check by 10 days. If a theft is reported this would give authorities time to check the recyclers and possibly catch the thieves when they return for their money," Fluker added.

Milford Smith, vice president of engineering at Greater Media, recounted an incident at WPEN(AM), Philadelphia in 2007 during a power increase project when thieves stole "a fair amount of copper strap and wire" stored in a garage prior to installation.

"Obviously someone in the neighborhood witnessed the delivery. After that, we posted a security guard at the site whenever work was not actively taking place," Smith said.

Smith recommends that broadcasters, during construction projects, keep copper materials out of sight and ideally off site until just before it is installed.

"Unfortunately, copper theft is an all too common reality faced by broadcasters nationwide," said NAB Executive Vice President of Media Relations Dennis Wharton. "It is an issue NAB has tried to raise awareness of over the years. We continue to encourage stations to protect their assets."

What tricks have you employed to discourage metal theft? Write to radioworld@nbmedia.com.

NEWS WATCH

RADIO WORLD: Radio World opened its new headquarters, part of the Virginia offices of parent company NewBay Media, on Jan. 28. The new phone number for Radio World and the Virginia offices of NewBay is (703) 852-4600; editorial e-mail may be sent to radioworld@nbmedia.com, though current e-mail addresses will forward for a time. The new mailing address is 5285 Shawnee Road, Suite 100, Alexandria, VA 22312-2334.

APT: Northern-Ireland-based APT moved due to expansion. The company's contact information is APT Ltd., Whiterock Business Park; 729 Springfield Rd.; Belfast; BT12 7FP; Northern Ireland. The company's new phone numbers are available at www.aptx.com. U.S. contacts are not affected; and sales and technical support can still be contacted via cell phone.

EXPANDED RELATIONSHIP: BSW is now a full-line Wheatstone console dealer. President Tim Schwieger called this a "strategic alliance" and says the company has begun by offering the new Evolution Series Digital Consoles. The dealer also carries the Wheatstone Audioarts and Vorsis lines.

V-SOFT: V-Soft Communications is holding its sixth annual Broadcast Engineering Training Seminar on April 12-13 before the NAB Show. The seminar at the Excalibur Hotel and Casino in Las Vegas will focus on station upgrading, translators, single-frequency networks and booster, interference analysis and move-ins. It also will feature the company's software programs. For more information, send e-mail to kmichler@v-soft.com or call (800) 743-3684.

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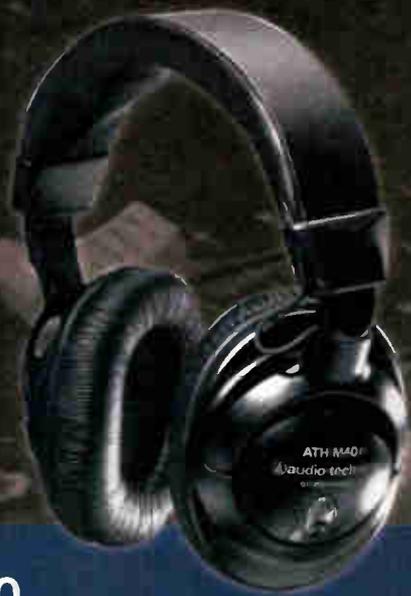
Audio-Technica's line of broadcast quality headphones provide exceptional clarity and sonic accuracy with high power handling. The closed-back cushioned earcup design creates an outstanding seal for maximum isolation while keeping distortion low. Units are collapsible, making portability and storage easy. Adjustable cushioned headbands and lightweight design allows for maximum comfort.

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World Radio History

Satellite

► Continued from page 3

DIRECTED INTRODUCES SIRIUSCONNECT INTERFACE

Directed's HON-SC1 SiriusConnect Interface adds Sirius Satellite Radio to Honda and Acura factory radios that had been XM-only.

The HON-SC1 allows the Honda/Acura factory radio with its proprietary



Directed's HON-SC1 SiriusConnect Interface adds Sirius to Honda and Acura factory radios that had been XM-only.

data bus to communicate with the SCC1 SiriusConnect Vehicle Tuner (sold separately) for a permanently installed solution, using the existing OEM radio controls, according to Directed.

By substituting a SC-VDOCI vehicle dock in place of the SCC1, the HON-SC1 user can interface a dock-and-play radio with the factory head unit, creating a portable system that can be used outside the vehicle.

The TOY-SC1 works with Toyota, Lexus and Scion autos.

A switch in both the HON-SC1 and TOY-SC1 selects the number of characters and scrolling parameters of the metadata display to match the factory radio data display.

The HON-SC1 and TOY-SC1 are available now for \$99, while the companion SCC1 SiriusConnect Tuner is \$49.

DIRECTED IMPROVES SIRIUS CONTROLLER/DISPLAY

Directed has updated its on-dash Sirius controller/display. Combined with a \$49 Sirius Connect tuner, the FMSC1 controller/display enables most factory sound systems to reproduce Sirius programming. The unit connects to an OEM radio's aux input or with a wired FM modulator.

The small controller/display sits on the dashboard and allows

See SATELLITE, page 14 ►

Satcaster Debuts XM NavWeather For Consumers

XM displayed a concept car filled with ideas its R&D teams are exploring with the hope of bringing some of them to market.

At CES the company gave some reporters a peek at such a car containing next-gen technology before it was unveiled at the North American Auto Show in Detroit following CES. The infotainment vehicle is designed to illustrate how XM's technology can be implemented by its OEM partners.

Inside the SUV was XM NavWeather, its first weather service for consumers. The satcaster says it's the first real-time, in-vehicle weather tracking system for GPS navigation to include a warning system for severe conditions.

with Baron Services, using the latter's Threat Matrix technology. Baron, which does weather analysis, is the satcaster's weather partner for the XM WX Satellite Weather service that provides real-time weather information to aircraft cockpits and marine avionics instruments.

XM NavWeather will be available for the portable hand-held GPS Bushnell ONIX 400 in Q1.

The XM R&D vehicle displayed improved features and those their OEM partners may decide to implement, including:

— New touch-screen interface featuring a color display including album art, channel and sports team logos and



Acura is XM's first automotive partner to debut the XM NavWeather service. The weather will be bundled with XM's real-time traffic service.

Acura is XM's first automotive partner to debut the XM NavWeather service. The 2009 Acura RL will offer XM NavWeather featuring Threat Matrix technology as a part of its AcuraLink service, which uses the XM communications interface. The new Acura RL was unveiled in early February at the 2008 Chicago Auto Show.

The system includes a touch-screen display featuring an electronic programming guide, stocks and sports tickers and dynamic information, including the ability to download local gas prices or flight information.

"We'll send data as well as audio" to the vehicle, Stuart Cox, senior vice president of XM's OEM and Advanced Applications Engineering, told Radio World.

The system features a split-screen capability that enlarges what the customer is using at the moment yet still retains the rest of the display in view.

XM NavWeather enables drivers for the first time to view live, personalized weather forecasts and conditions on top of their existing navigation display. The so-called "Threat Matrix" technology provides immediate alerts on developing weather conditions, such as hail, tornado and storm warnings, mapped to the driver's location and driving route.

Drivers will have the option to view current and developing road weather conditions and multi-day forecasts for cities across the country, and also view weather maps to monitor conditions around the United States. The new service complements the XM NavTraffic real-time traffic data service.

XM NavWeather was developed

a multi-function display for viewing multiple XM channels at once.

— Electronic Programming Guide: An interactive programming guide notifying the driver and passengers of upcoming special programs. The driver can request a reminder for a program of interest and later be alerted if they are in the vehicle the next time the shows they selected are broadcast.

— Pause/Replay: The ability to pause and replay multiple channels of XM programming simultaneously.

— XM NavTraffic: A satellite-delivered traffic information service that informs drivers of traffic conditions, including travel speeds on major roads, accident locations and road closures, updated in real time on the navigation screen. The service is available for 80 markets in vehicles from Acura, Cadillac, Toyota, Lexus, Nissan and Infiniti, as well as retail aftermarket GPS navigation products.

— XM Sports and XM Stocks: Streams team game times and scores and/or your updates to a stock portfolio directly to the vehicle as updates happen, without interrupting XM Radio listening.

— VoiceCommand: Voice control, developed by VoiceBox Technologies, for operating the radio, along with weather, traffic, stock quotes and sports scores.

— XM NavInfo: Dynamic data service that uses the XM satellites to deliver point-of-interest data to the vehicle, such as nearby open parking space locations, local fuel prices and flight information. XM NavInfo then relies on the vehicle's GPS navigation to lead the driver there.

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I LOVE MUSIC. YOU LOVE ME

I'm an indie/hipster girl who adores music and going to clubs and shows. Some of the bands that I'm into are Interpol, The Arcade Fire, Blonde Redhead, Bauhaus, The Smiths, Morrissey, etc. I'm into indie rock, electronica, punk, pretty much anything. I drink and smoke occasionally. I'm 21, 5'8", light-skin, dark brown hair/eyes. I work, am well-educated, funny, spontaneous, nice. #2215234

HANDSOME RAKE

Out of work leaf raker/bagger seeks whimsical beauty with un-kempt auburn or chestnut hair, cool coarse hands and a penchant for whistling. mellow_mo, 28, #101318

LET'S CONNECT

Radio engineer seeks stable long distance relationship. Need to connect immediately. Everywhere I go, I see broadband internet, but I just never hook-up. I need to meet that special someone that will plug me in so I can be heard. Must be reliable, connect easily, forgive errors and adapt to change. Should come from a good family. easy_going #101352

SIMPLICITY HERE

Simply put, I'm looking for a fun, casual relationship with only one person. That means one person for me and one person for you. :-) Every woman wants to feel safe with a partner, whether it's serious or not. It's key to her feeling comfortable to express her more intimate nature. I don't ask for much other than to hang out, enjoy your time with me and be available to chill.

MR. RIGHT

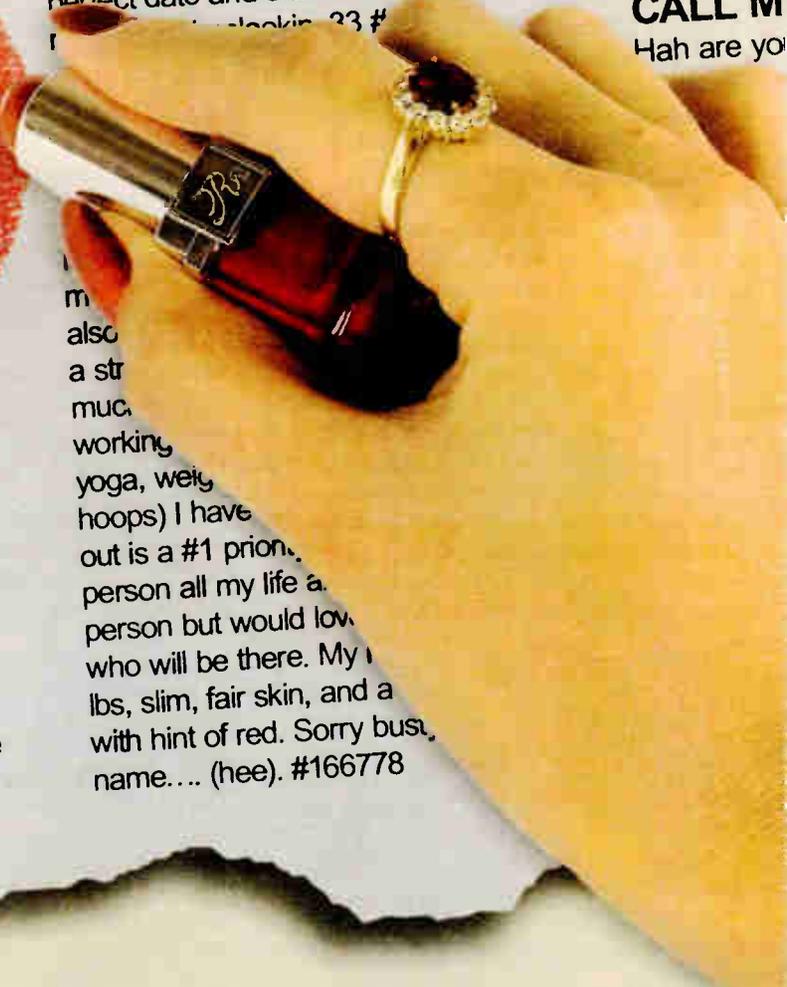
I'm actually posting this on behalf of a friend. Since she's been single she hasn't found the right guy and I'm doing this in hopes of helping her find Mr.Right. After you and I talk, if you are chosen then you will get to go on a date with her and who knows, it could be the perfect date and start of a new relationship. Looking 33 #

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NEW TELOS ACT (AGILE CONNECTION TECHNOLOGY): Z/IP brings automatic on-the-fly bitrate adjustment to IP codecs - a first. The Z/IP constantly monitors the network and sets its bitrate to the optimum value. A dynamic adaptive receive buffer also responds automatically to network conditions, minimizing the effects of the varying bandwidth and jitter that occur on real-world networks.

EFFECTIVE PACKET LOSS CONCEALMENT: The Internet usually has packet loss on audio streams, often ranging up to a few percent. The new AAC-ELD codec combined with ACT can conceal this loss, making for smooth audio even with rough network conditions.

TELOS-HOSTED Z/IP SERVER WITH DIRECTORY SERVICES: Enables you to look up, view the status and connect to other Zephyr/IP users worldwide, even through the toughest firewalls.

A STATE OF THE ART USER INTERFACE: And so you don't feel like you are on a blind date, we give you all of the status information you need on a sharp-looking color LCD which shows live network statistics and trace-route maps in an easy-on-the-eyes graphical interface.



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Satellite

► Continued from page 12
users to control Sirius functions like channel changing. Directed says the FMSC1, which lists for just under \$130, has improved display features.

CLARION MAKES SATELLITE ADDITIONS EASIER

Clarion said it is making it easier and less expensive to add XM or Sirius tuners to aftermarket head units.

The manufacturer says new source units, called "XM MiniTuner direct connection," are the first to incorporate the connection. XM Mini-Tuner is a portable cartridge that allows users to take an XM radio subscription from one XM-ready car or home product to the next.

Clarion also introduced two other head units that can connect directly to a Sirius tuner.

The new tuners allow both the XM and Sirius installations to be made without a translator box. Such boxes contain satellite radio control software, as well as software to work with the data buses of specific head-unit brands.

The Clarion DUZ385SAT, VRX785BT and MAX685BT head units don't need a translator box; they connect to a \$30 XM MiniTuner placed in a \$30 CNP-2000 cradle with antenna. In contrast, an XM Direct 2 kit includes a MiniTuner, cradle and translator box for \$130.

Clarion's DUZ385SAT is a new 2DIN design, with large buttons that have an OEM factory look and feel. This 2DIN CD source unit offers MP3, WMA and AAC playback with XM Mini-Tuner direct connection. Features include iPod audio direct control via USB.

The DUZ385SAT also offers the capability of interfacing with factory steering wheel controls when used with an optional third-party device and is Sirius Satellite Radio connection-ready when used with Clarion's CeNET CLA-SCI translator.

The VRX785BT is a one DIN in-dash DVD system that offers the XM Mini-Tuner direct connection and iPod audio direct control via USB.

Both the VRX785BT and the new MAX685BT offer a several playback options including: DivX, DVD-Video, MP3, WMA, AAC, USB and USB digital media streaming WMA-DRM compatible (WMDRM10).

Clarion's premium 2DIN multimedia source unit, the MAX685BT features the XM MiniTuner direct connection, integrated Bluetooth, iPod audio direct control via USB, and iPod video control (with optional cable); it is compatible with Clarion's navigation system.

Availability is Q1 for all three head units. The DUZ385SAT retails for just under \$300; the MAX685BT and VRX785BT retail for just under \$1,000.

Clarion's MAX385VD double DIN multimedia center offers Sirius direct connect where no \$50 translator box or adapter cable is required. The user simply plugs in the Sirius tuner into these

Clarion source units. The MAX385VD has a 6.5 inch monitor with touch-panel control, MP3/ WMA playback, iPod audio control and iPod video playback with Clarion's USB iPod cable.

The VRX485VD 1-DIN AV Center features a 7 inch flip-out monitor with touch-panel control, MP3/ WMA and DivX video playback. It is iPod audio and video-ready.

The company expects Q1 availability with both the MAX385VD and VRX485VD retailing for just under \$600.

SAMSUNG RESERVES 3 HTIBS FOR XM

Samsung offers three models of its 5.1-channel Home Theater in a box systems that are XM-ready.

The units include five-disc upconverting DVD player and have embedded iPod docks. The Samsung HTiBs feature wireless out-of-the-box speakers with 5.8 GHz technology. Z510 Series consists of the HT-Z510, which features four satellite speakers; the HT-Z512, which features two satellites and two tallboys; and the HT-Z515, which has four tallboys.

The HT-Z510, HT-Z512 and HT-Z515 will be available in April and list for \$379, \$429 and \$479 respectively.

SIRIUS EXCEEDS 8.3 MILLION SUBSCRIBERS

Sirius Satellite Radio reported it ended 2007 with more than 8.3 million subscribers. That compares to the company's 2006 ending subscriber base of just over

6 million.

XM reported ending the third quarter of 2007, its last reported figure as of early February, at more than 8.5 million paying customers.

During 2007, Sirius added approximately 2.3 million net customers. Churn was about 2.2 percent, according to the company, which intended to update its figures in February.

STERN MARKS TWO YEARS ON SIRIUS

Jan. 9 marked the beginning of Howard Stern's third year broadcasting on Sirius.

On that date in 2006 he "left his long and dominating reign" in terrestrial radio, according to the satcaster, to launch his show on Sirius. Stern was joined by long-time co-hosts Robin Quivers, Fred Norris, Artie Lange, and producer Gary Dell'Abate.

"Howard Stern revolutionized broadcasting, and at Sirius he has redefined radio," said Scott Greenstein, Sirius' president, Entertainment and Sports.

Sirius airs two dedicated Stern channels — Howard 100 and Howard 101. In addition, The Howard Stern Show is available online through Sirius Internet Radio at www.sirius.com, as well as at www.howardstern.com.

In December 2007, Sirius premiered The History of Howard Stern. The first installment was "The Early Years." The second installment will debut this December. ●



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Go (con)figure • The folks at MPR say they really love being able to configure and administer an entire building full of consoles and routing equipment from the comfort of their own offices. Put an Internet gateway in your Axia network and you can even log into Element (or any other part of an Axia system) remotely from home, where there's plenty of Cheetos and Pepsi. Great for handling those 6 P.M. Sunday "help me!" phone calls from the new weekend jock.

Perfect timing • You can't have too much time. That's why Element's control display contains **four different chronometers**: a digital time-of-day readout that you can slave to an NTP (Network Time Protocol) server, an elapsed-time event timer, an adjustable count-down timer... and there's also that big, honkin' analog clock in the center of the screen (Big Ben chimes not included).

Black velvet • Some things just feel right. Like our premium, silky-smooth conductive plastic faders and aircraft quality switches. We build Element consoles with the most durable, reliable components in the industry — then we add special touches, like custom molded plastic bezels that protect on/off switches from accidental activation and impact. Because we know how rough jocks can be on equipment. And nothing's more embarrassing than a sudden case of *broadcastus interruptus*.

Swap meet • Element modules hot-swap easily. In fact, the **entire console** hot-swaps — unplug it and audio keeps going; an external Studio Engine does all the mixing.

How many? • How many engineers does it take to change these light bulbs? None... they're LEDs.

Talk to me • Need some one-on-one time with your talent? Talk to studio guests, remote talent, phone callers — **talk back to anyone** just by pushing a button.

The Busy Box for jocks • Element comes standard with a lot of cool production-room goodies you'd pay extra for with other consoles, like per-fader EQ, aux sends and returns and custom voice processing by Omnia™, enabling you to quickly build and capture compression, noise gating and de-essing combinations for **each and every jock** that load automatically when they recall their personal Show Profiles. Context-sensitive SoftKnobs let production gurus easily tweak these settings, while simultaneously satisfying their tactile fixations. (Don't worry: for on-air use, you can turn off access to all that EQ stuff.)

Screen play • Use any display screen you choose, to suit your space and décor. Get a space-saving 12" LCD, or go for a big 21" monster. (This is Dave Ramsey's favorite Element feature, by the way. Anyone want to bet he bought his monitors on sale?)

Lovely Rita • LED program meters? How 1990's. SVGA display has lots of room for timers, meters, annunciators and more — enough to show meters for all four main buses at once. Reboot to 5.1 surround mode and the light show is even cooler, with surround audio and associated stereo mixes all going at once.

Split decision

No, you're not seeing double. Element gives you the choice of single-frame or split frame configurations of **up to 40 faders**. Perfect for complicated talk or morning shows where the producer wants his own mini-mixer, or to give talent space for copy, newspapers and such. Solomon would be proud.

Who are these guys? • Why buy a console from Axia? Element was designed by Mike Dosch and his team of ex-PR&E renegades (who know a bit about consoles). And Axia is a division of Telos, the DSP experts.

Memory enhancer • We know how forgetful jocks can be. That's why Element remembers their favorite settings for them. Element's Show Profiles are like a "snapshot" that saves sources, voice processing settings, monitor assignments and more for **instant recall**. Profiles are easy to make, too: just have talent set up the board the way they like it, then capture their preferences with a single click for later use. (Hey, make *them* do some work for a change.)

Stage hook • This button activates the emergency ejector seat. OK, not really. It's the Record Mode key; when you press it, Element is instantly ready to record off-air phone bits, interviews with guest callers, or remote talent drop-ins. One button press starts your record device, configures an off-air mix-minus and sends a split feed (host on one side, guest on the other) to the record bus. Like nearly everything about Element, Record Mode is **completely configurable** — its behavior can even be customized for individual jocks. Sweeeeet.

Missing features • Did we forget something? Program these **custom button panels** with any macro you want, from recorder start/stop to one-touch activation of complex routing and scene changes using PathfinderPC™ software. You could probably even program one to start the coffee machine (black, no sugar, thanks).

Mix-plus • If constructing a complicated mix-minus on-the-fly brings a big grin to your face, you're excused. But if you're like us, you'll love the fact that Element does mix-minus **automagically**. Forget using all your buses for a four-person call-in, or scrambling to set up last-minute interviews. When you put remote codecs or phone calls on-air, Element figures out who should hear what and gives it to 'em — as many custom mix-minuses as you have faders.

Great Phones • With Element, jocks never have to take their eyes or hands off the board to use the phones. Element works with any phone system, but really clicks with the Telos Series 2101, TWOx12, and new NX-12 that connects four hybrids plus control with a **single Ethernet cable**. StatusSymbols™ (cool little information icons) tell talent at a glance whether a line is in use, busy, pre-screened, locked on-air, etc. Even dial out with the built-in keypad.



AxiaAudio.com

Shown: 16-position split-frame Element, nicely equipped, \$12,538.00 US MSRP. Not shown but available: 4-, 8-, 12-, 16-, 24- and 28-position Element. Dual exhaust and whitewalls optional at extra cost. © 2006-2007 TLS Corp. Axia, Element, PathfinderPC, Status Symbols, Omnia TM TLS Corp., all other TM's property of their respective owners.



Gremlins Lurking at the Transmitter?

by John Bisset

If you were to list the most common trait among broadcast engineers it would be our unending quest to learn more.

However, other than a few books, seminars or tech manuals, the resources may seem somewhat limited — especially with the graying of many in this profession.

Thanks to the Internet, as well as the efforts of today's consulting engineer community, a variety of papers and tutorials are available.

One such place to quench this thirst for knowledge is the Web site of Seattle-based Hatfield and Dawson, www.hatdaw.com. If you're into AM, you'll find the site chock full of practical information.

One of the firm's principals, Ben Dawson, called my attention to an installation drawing for Austin Ring transformers, after reading about Stu Engelke's VSWR trip problem in the Jan. 2 issue.

Ben points out that proper orientation of the spark-gap balls is only part of the story. Installation of the transformer so that the secondary can create rain drips to the primary will eventually cause a spot where the next big lightning hit will find a home.

This situation and solution are best illustrated in Fig. 1, prepared by the firm's draftsman, Bob Allen. The drawing can also be found at www.hatdaw.com/papers, under Austin Ring Transformer Installation.

Ben says it's not uncommon, particularly out in the temperate rain forest of Washington state, to find an Austin transformer failure that is clearly the result of years of drip erosion.

Add to the drip erosion the fact that if the balls are mounted vertically, the arc won't self-extinguish. Mounting them horizontally makes a situation like a

"Jacob's ladder" so that the heat of the arc causes it to rise and (hopefully) self-extinguish.

Ben recalls that a FEMA installation in the Midwest had such vertically mounted arc gaps which reportedly resulted in a total loss transmitter fire.

Brentwood (Bud) Bailey spent 40 years as an AM engineer in Ohio, working with WICA, WREO and WFUN.

Now retired, Bud weighed in on the Austin Ring transformer dilemma. He writes that after 40 years, he hasn't seen everything but he's seen a lot!

Add to the drip erosion the fact that if the balls are mounted vertically, the arc won't self-extinguish.

He points out that improper positioning of the rings can also cause icicles to form between the bottom of the upper ring and the inside of the lower ring in colder climates. The result can not only put the station off the air, but damage the transformer when an arc develops and burns a hole in the lower ring.

It was Bud's experience that the transformers be kept painted with an insulating paint to prevent moisture from penetrating the fabric and short out the windings. Check the integrity of the painted fabric covering the windings as part of regular tower inspection.

Bud Bailey can be reached at bailey539@gmail.com.

See HEATER, page 18 ►

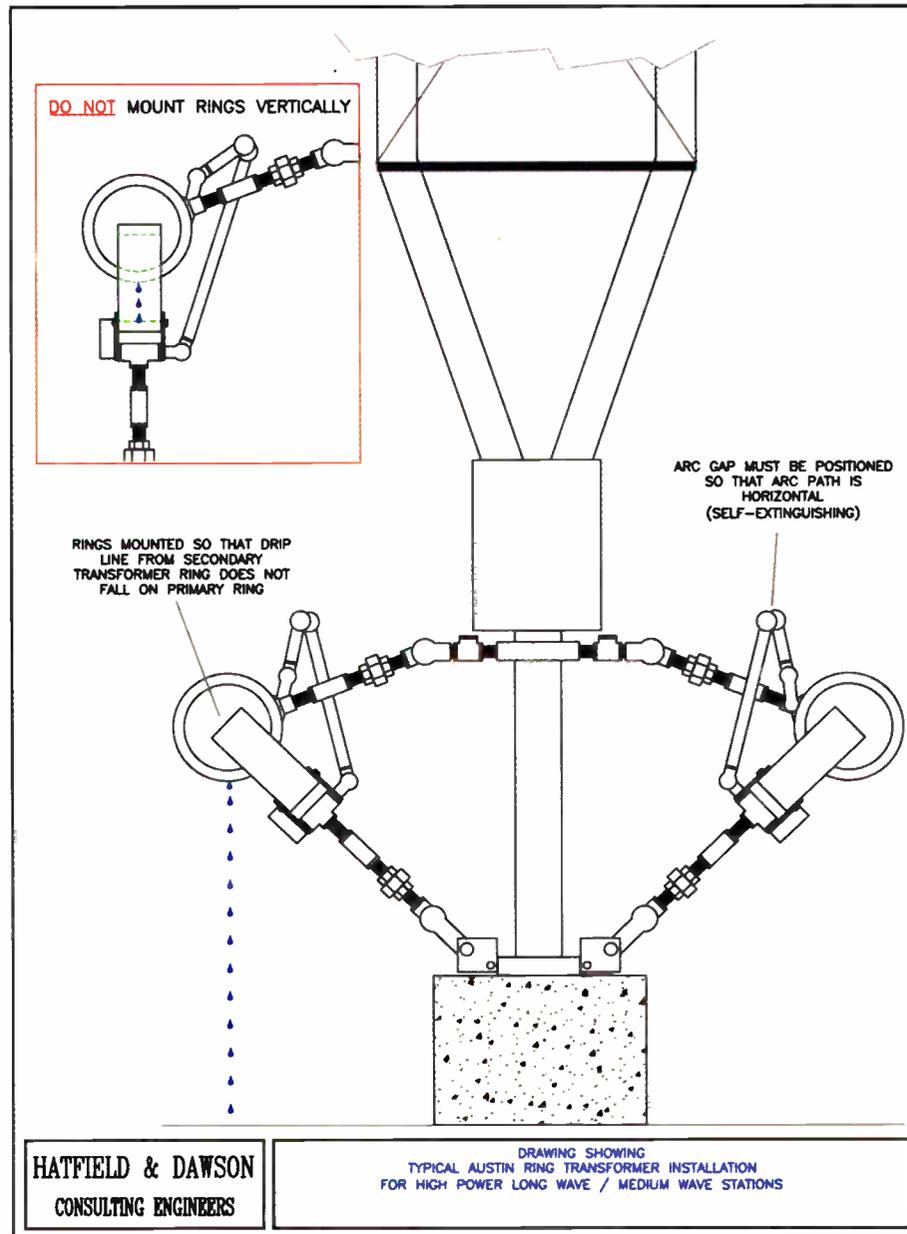


Fig. 1: Proper mounting and orientation of Austin Ring Transformers, courtesy of Hatfield and Dawson.

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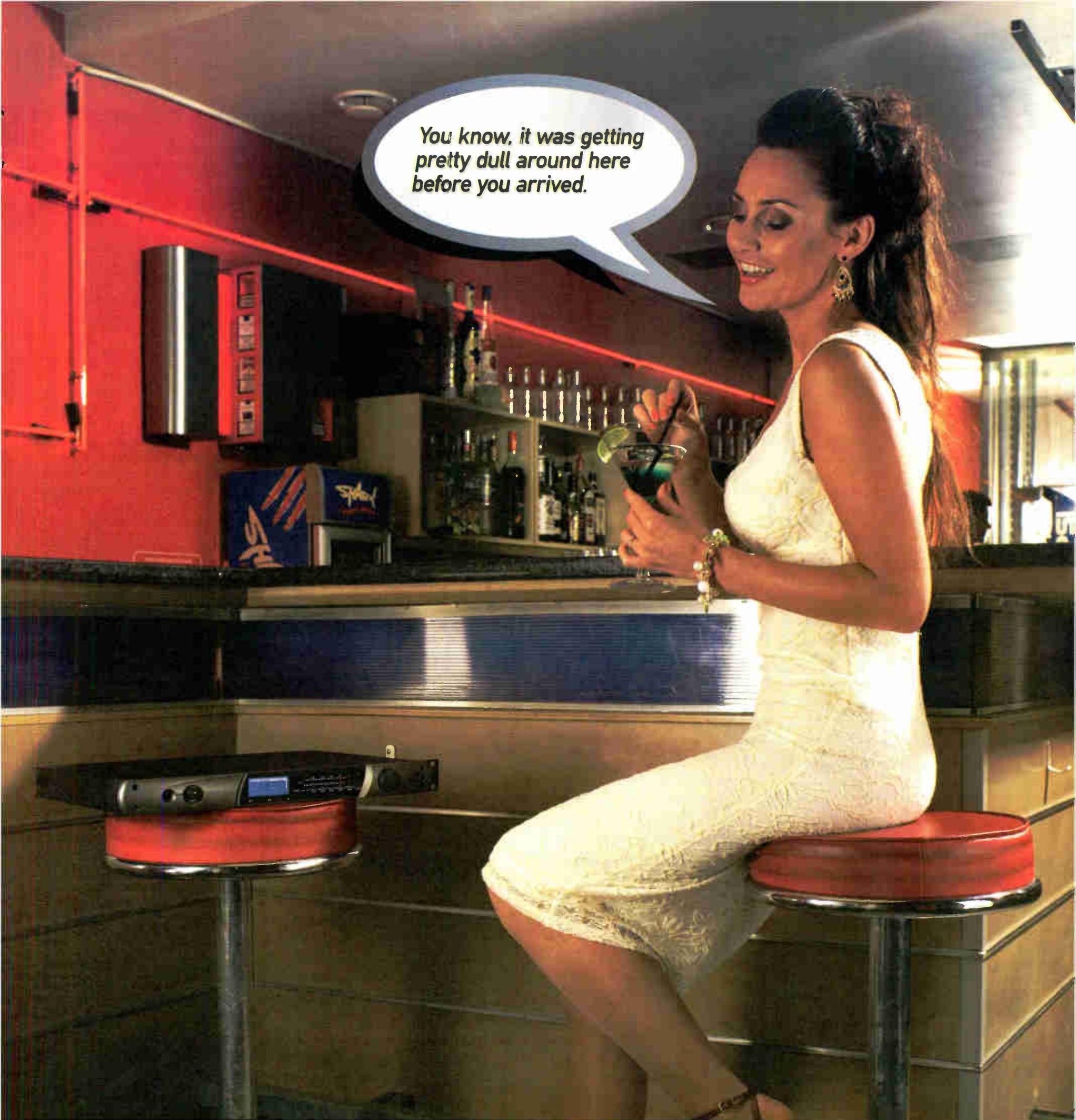


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World Radio History

Heater

► Continued from page 16

It seems the entire country felt the New England chill this winter. Contract and project engineer John Ramsey offers a reminder for anyone building transmitter plants: provide a source of supplemental heat.

This is especially important in a day of solid-state transmitters that put out less heat.

A few years ago when John moved one of his AM clients to a new site, he added a 5 kW electric heater, just in case. John did this even though the station was a 5 kW operation going 24/7 with a full-power backup.

The heater sat unused until recently, when the station suffered a power surge that caused severe damage to both transmitters. It took the better part of a day to get the station back on the air. During his time at the site, the outside temperatures hovered in the teens and the building temperature was 45 when he arrived.

The heater kept John comfortable and safe.

When the transmitter building is that cold, it's easy to make mistakes as you try to stay warm. A heater can also fight condensation, which can form if the transmitter warms up too quickly.

John Ramsey can be reached at jramsey@marlinbroadcasting.com.

RSI, a company that offers RF and technical safety training, is bringing its RF Site Safety and Awareness seminars to Hershey, Pa., and Albany and Buffalo, N.Y., in April.

The university-based

training focuses on both OSHA and FCC policies as well as RF and general safety issues.

Call (888) 830-5648 to reserve a seat or register online at www.rsicorp.com.

Greg Muir is the chief for Cherry Creek Radio and the Central Montana Radio Network in Great Falls, Mont. There are times he has to go out, in the middle of the night, to help an old ailing transmitter that has gone off the air.

As seen in Fig. 3, Greg feels there is more behind the problems than simple



www.rsicorp.com

Fig. 2: RSI offers RF safety classes.



Fig. 3: Transmitter gremlins do exist.

component failure. Finally we caught one on film. So that's what a gremlin looks like!

John Bisset has worked as a chief engineer and contract engineer for 39 years. He is the northeast regional sales manager for Broadcast Electronics and in 2007 received the SBE's Educator of the Year Award. Reach him at (571) 217-9386 or jbisset@bdcast.com. Faxed submissions can be sent to (603) 472-4944.

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

Wheatstone Hosts Dealer Training

Four dozen attendees took part in Wheatstone dealer training in January in New Bern, N.C.

The sessions included tours of the company's manufacturing processes, and training targeting the company's four divisions: Wheatstone Broadcast, Audioarts Broadcast, Vorsis Signal Processing and its new commercial audio division.

Attendees came from North and South America, Europe, Asia and Africa.



Greater Media will use an Axia IP-Audio network in Philly. This will be a large-scale routing system for a cluster that includes WMMR(FM), WMGK(FM), WJZZ(FM), WBEN(FM) and WPEN(AM).

"Greater Media will use Axia gear to interface 63 remotely-located audio servers with over 400 concurrent audio streams to the on-air studios at their One Bala Plaza location," Axia stated. ...

NewTek Inc. said Knockout Digital Media would again use its TriCaster portable production and virtual set system to produce and stream ESPN

Radio's pre-Super Bowl coverage live from several cities in Arizona. Programs streamed included "Mike and Mike in the Morning," "The Herd With Colin Cowherd," "The Mike Tirico Show," "The Huddle" and "Super Bowl Countdown." ...

Radio Today Broadcasting Ltd., radio division of the India Today Group,

launched FM radio stations in Delhi, Mumbai, Kolkata, Patiala, Amritsar, Shimla and Jodhpur using OMT iMediaTouch radio automation software. The installation marks the first major radio group in that country to standardize on OMT's iMediaTouch. ...

Bonneville station KTAR(FM) in Arizona aired live, long-form coverage from inside one of the Iowa caucus meetings. The station's technical team used the Comrex Access Portable. Director of Engineering Gary Smith said he also is using the box as a full-time audio link for Radio Vida Abudante, bringing audio from Santa Maria, Calif., to Phoenix. ...

Aaron Creasy, chief engineer of Texas A&M Athletics, used a Kaltman Creations Spectran HF4060 RF Spectrum Analyzer for RF frequency coordination last football season. He said the organization is one of the first NCAA venues to offer such coordination. The organization manages

about 125 wireless frequencies in the 10 MHz to 6 GHz range for a given game.

The unit is handheld and used to find space for 2.4 GHz wireless video, keeping coaching wireless intercoms free of interference and similar purposes. It is used primarily connected via USB to a Sony Ultra Mobile PC. ...

Music channel 9XM was launched by INX Media; it was the first operator in Asia to adopt GSelector scheduling technology from RCS. Vikas Varma is head of music, Shankar Balakrishnan is manager of support services at RCS India. ...

Logitek recently took an order for two Mosaic consoles and Audio Engine routers to Utah State University/Utah Public Radio in Logan, Utah.

Separately it sold two Artisan consoles and Audio Engine routers to

Fairfax County Public Schools in Virginia and two Remora consoles with Audio Engine to Backyard Broadcasting in Olean, N.Y.

Abroad, the company received orders for a Mosaic console, two Audio Engine routers and various router controllers from MCM Entertainment

in Australia. The Australian Broadcasting Corp. ordered Mosaic and Remora consoles with associated Audio Engines for operations in Albany, Bundaberg and Sale; Logitek Distributor Preco (United Kingdom) placed orders for four Mosaic consoles with associated Audio Engines for various installations. ...

CaboWaboRadio.com is using a Digital Juke Box automation system. The online station, below, is owned by Sammy Hagar, Shadoe Stevens and Woody Nelson; it launched New Year's Eve from Cabo San Lucas, Mexico.



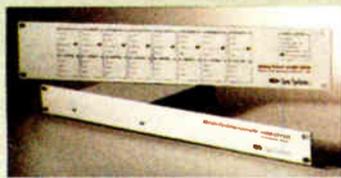
Darrell Ankarlo on the air from Iowa with the Comrex Access.



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World Radio History

Would You Like Fries With That?

As Media Menus Expand, Will Local Radio Become a Fast-Food Format?

Time was when radio stations were the only audio restaurants in town, and they served up all you could eat. Whether you liked country, classical or classic rock, you knew where to go to get an earful.

Today, however, new venues keep popping up, and they each have a differentiated format to present to customers. They are usually pretty small venues that prefer to serve only a few customers, but with high style and quality — and with narrowly defined cuisine, but lots of choices on the menu. Some even allow you to customize your order to your own tastes.

So how does the old radio diner measure up to these new sonic bistros?

The other LCD

The music formats of most local commercial radio stations are by design limited to a tightly controlled set and sequence of songs.

In this way, they really do follow the fast-food model. They may be locally owned and operated, but they brand themselves by association with a nationally consistent flavor, under the banner of a format name — a franchise.

While in television the LCD is a good thing, driving down the prices for HDTV displays, in radio we are facing the *other* (or original) LCD — the Lowest Common Denominator — as a descriptor of most traditional radio formats. While this used to be a formula for maximizing listeners, it may not be as effective in this era of expanded choice.

For now, radio's greater service availability continues to keep its popularity high, but as new formats become increasingly available themselves, will the LCD label become a greater liability?

Some would say that there will always be a market for an LCD service, claiming that by statistical definition, it

The Big Picture



Photo: Gary Hayes, BBC

by Skip Pizzi

appeals to the largest single pool of listeners. But that appeal will only translate into actual usage (i.e., listening) if there is no better alternative available to each listener. As more options abound, more listeners may choose something more suitable, and few may remain satisfied with only the LCD.

Just like fast food, it's not that it's badly prepared, but the menu is certainly limited, and rarely changes. If other choices are readily available and obvious, there's plenty of pent-up demand to drive customers away from the old standby.

Another LCD analogy is price, of course. It's one of the appeals of fast food, and of local radio, too. Radio already occupies this lowest level of the

While he's anxious to learn more about HD, right now he's focused on radio's interactive possibilities. He has plenty of questions regarding streaming, staffing a Web department — and the impact on his bottom line.

At his station, it's all about the HD transition and the associated benefits, including sound quality, netcasting, tagging, scrolling text and no multi-path distortion. He's ready to put the pops, hisses and fades behind him.

On the hunt for creative content that will help elevate his station's revenue using on air, online and mobile strategies.

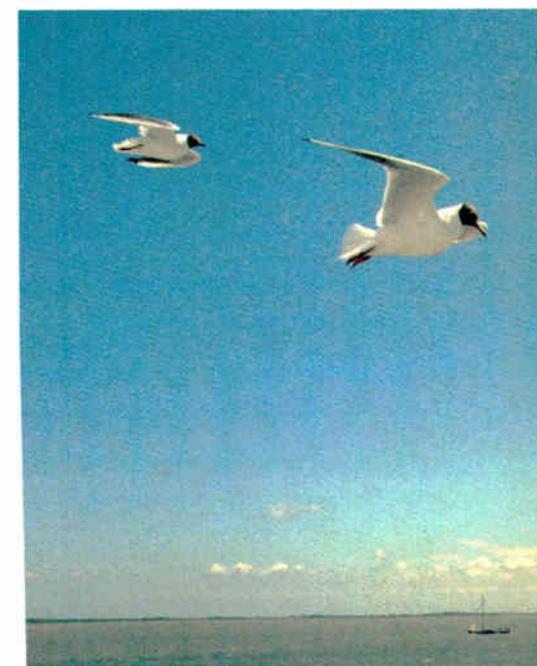
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audio food chain, which may hold some appeal to advertisers, but is not the most advantageous position to build upon for future growth and the thwarting of new competition. It's also a place from which there's only one direction to move, and that's never a comfortable spot.

Coping skills

There are several ways that radio can avoid being stuck in the LCD corner forever.

To continue the food-emporium metaphor, consolidating local chains can be helpful. This is something that both restaurateurs and radio stations have already done in recent years. Optimizing multiple outlets to appeal to different customer cohorts is a smart strategy, but there's a risk of spreading resources too thinly and ruining everything, so proper balance must be maintained.

Another approach that has proven successful recently in the food industry involves operating multiple restaurants from a single kitchen (and single loading dock, administrative office, etc.). For example, an increasingly popular

approach combines casual dining downstairs with fine dining upstairs, plus a carry out window, all under a single-branded venue, but with readily identifiable variations.

The radio equivalent is a single station with IBOC multicast and/or Webcast streams that all serve up the same general format, but with upscale and downscale variants.

A further new trend in the restaurant biz is catering to "foodies" with club memberships, newsletters, recipes, kitchen tours, cooking classes and other higher levels of involvement for their most motivated customers.

Radio can do the same with online frequent listener clubs, chats, DJ cams, concert calendars, podcasts, online customized-stream players, music storefronts (i.e., links for listeners to purchase downloads of songs featured on air), and other features building upon the station's format and brand, as some have already begun to do.

Sometimes you feel like a nut ...

The fact that listeners sometimes turn to their own libraries for content is to be expected. That's been the case since radio and the phonograph coexisted. Sometimes a listener may be in the mood for radio content, sometimes for stored content — simple as that.

So let's acknowledge this and move

on. Rather than trying to deny it, why not embrace it? In that regard, radio can act as an agent to help listeners discover and navigate an increasingly complex media landscape.

For example, while it may seem counterintuitive to make it easier for listeners to obtain downloaded content that keeps them from listening to the radio, recognize that listeners are going to download music anyway.

Why not make your station their online music store, at least for some of their purchases? It builds brand loyalty and front-of-mind value when considering music of your station's format.

(Why would a restaurant give away their recipes? Because people are not going to eat out every night — they're probably going to cook at home most of the time. So why not have them thinking about your restaurant while doing it?)

Moreover, this contextual shift to the local content library may also make listeners retrospectively realize the value of your station, as they hear the song by itself on their player rather than surrounded by other well-chosen music, relevant information and assorted continuity on the air — just as the person cooking the restaurant's recipe at home probably realizes how much better the dish seemed at the restaurant.

As my teenage son once told me, sometimes it's more exciting to hear a song on the radio than from your own player because you know so many other people are listening to it along with you.

One way or another, radio needs to serve up a wider variety of content, across a broader range of platforms and with a richer set of associated materials

than it has in the past. It also needs to tap deeper into its communities of interest (both geographic and formatic) to show its true value.

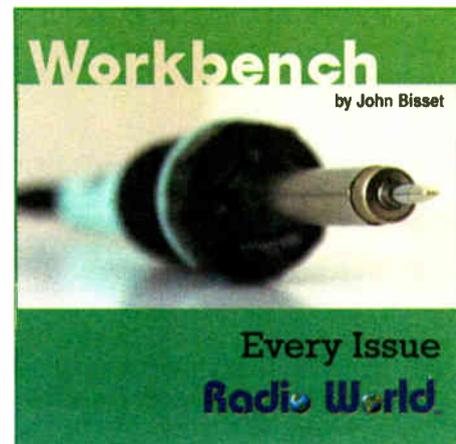
Remember that radio is what you do, not who you are. Who you are, really, is a ubiquitous purveyor of information and

entertainment, and AM or FM radio broadcasting is just *one* method of its delivery today.

Just as chefs have realized that there can be numerous contexts in which they present their wares — from white tablecloths and candlelight to the frozen food case at the supermarket — radio can apply similar thinking to avoid a permanent sentence to life in the fast-food lane.

Skip Pizzi is contributing editor of Radio World.

Remember that radio is what you do, not who you are.

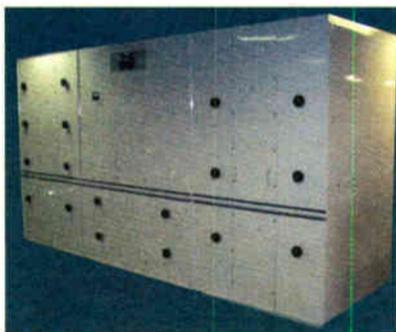


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SINCE 1963

ROOTS OF RADIO

Last of VOA Wartime Stations Goes Dark

How International Broadcasting Found Its Way to Delano Near California's Route 99



Exterior of the Delano transmitting station as it appeared in the late 1940s or early 1950s.

Photo courtesy Jack Quinn

by James E. O'Neal

The Voice of America's Delano shortwave transmitting station is difficult to ignore. Set back nearly two miles from California's Route 99, the massive antenna structures command the attention of motorists by day, and at night the pulsing strobes and beacons beg notice.

As with many government facilities, there's something of a mystery about what's inside the nearly one-square-mile San Joaquin Valley compound.

The main structure was large at its inception and has grown over the years, now totaling some 26,000 square feet.

Behind it are the acres and acres of antennas — rhombics and immense curtain arrays.

Last fall, daily patterns around the station changed — no more roar of massive cooling blowers, no amplified voices in the control room, no more invisible thunderbolts hurled at the ionosphere to rain down on the other side of the world. The station's Southern California Edison megawatt-sized feeders now only carry a trickle of electricity — just enough to keep the lights on.

After 23,000 days of continuous operation, the facility is silent. Its management authority, the Broadcasting Board



Photo courtesy Continental Electronics

James O. Weldon is shown with one of the massive Western Electric 320A triodes used in the 500,000 kW Doherty transmitter that he constructed for Dr. J. R. Brinkley in Villa Acuña, Mexico.

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of Governors, made the decision to shut it down last October.

Delano was one of three shortwave stations constructed under extreme wartime restrictions and shortages to provide shortwave broadcasting capability for the Office of War Information or OWI, the VOA's precursor organization.

Before the antennas are scrapped and the gigantic transmitters relocated for service elsewhere, it seems appropriate to pay tribute to the station's architects and the generations who worked there by revealing a bit of its history.

Actually, the Delano Transmitting Station was never intended to be built there. It was constructed under the watchful eye of an engineer who earlier built radio transmitters for a quack doctor. Though it was constructed for govern-

ment purposes, CBS (the Columbia Broadcasting System at the time) was solely responsible for construction and early operations.

Beginnings

To better grasp Delano's unique history, it's necessary to go back to the first days after America's entry into World War II.

At the time of Pearl Harbor attack, the U.S. government had no international broadcasting facilities. In contrast were the scores of HF transmitters that Hitler and Hirohito kept busy, spreading their versions of the facts to anyone with a shortwave receiver.

Pearl Harbor changed perspectives, and in early 1942 the international broadcasting imbalance began to shift with the establishment of the Office of War Information and construction of the first radio studios

expressly for government use.

These were linked to shortwave transmitters owned by General Electric, Westinghouse and others. But that was not good enough. Permanent facilities with more powerful transmitters were needed for government purposes.

Engineering for the Goat Gland Man

A search began for someone to coordinate the engineering for this undertaking — someone who understood high-power transmitters and radio broadcasting. It ended with the eventual appointment of James Oliver Weldon to the position of the OWI's Chief of Communication Facilities Bureau.

Weldon's credentials were unique, as
See DELANO, page 23 ►

Delano

► Continued from page 22

there were only a handful of engineers with experience in high-power transmitters and antennas.

At the time, he'd been working with the Federal Telephone and Radio Corporation in the design of several 50 kW New York City stations. A few years earlier, Weldon's small Del Rio, Texas consulting firm had been kept busy catering to the demands of the notorious Dr. John Romulus Brinkley — aka "The Goat Gland Man" — for a progressively more potent radio station.

Brinkley catered to the victims of impotence, offering rejuvenation through surgical implantation of testicular tissue taken from a particular breed of goat.

This quackery made Brinkley a multi-millionaire and his success in attracting new patients was greatly enhanced by the power of radio.

Weldon initially consulted for Brinkley in connection with the doctor's Milford, Kan., station. However Brinkley's questionable medical practices and battles with authorities resulted in loss of his station license and prompted a relocation of the doctor's clinic southward to Del Rio.

Brinkley had cut a deal with Mexican officials, securing permission for a high-power transmitter just across the Rio Grande — and out of reach of the U.S. government. Weldon made the move to Texas too and was tasked with putting Brinkley's station on the air, eventually expanding its power to some 500,000 watts.

What Brinkley did with his station did not really concern Weldon. He loved radio engineering and was a workaholic of the first order, choosing to build stations over listening to them. The experience gained in constructing this giant transmitter was to prove invaluable in Weldon's position with the OWI.

Weldon's first priority was in creating the needed transmitting facilities. CBS, NBC and the Crosley Corporation all agreed to take part, with respective engineering departments constructing stations to OWI specifications and providing operators. CBS drew the card to build a station in or near Los Angeles.

Initially, this seemed to be an easy project — possibly no more involved than the purchase of some real estate near Columbia's KNX transmitter, and putting up a few rhombics and a transmitter building.

The project got into high gear in early October of 1943.

Lester Bowman was the CBS lead person. Based at the network's Columbia Square operation, he wore the title of Western Division Engineer and was known as a hard-driving and successful manager.

Rough road

Bowman quickly found out that the transmitting station project might not be that simple.

For starters, Weldon had laid down very specific station location criteria:

- ✓ it had to be at least three miles from the coast;
- ✓ there must be no natural obstructions exceeding three degrees above the horizon within line of sight of the transmitter location;
- ✓ the real estate parcel had to be one

mile long in the east-to-west direction and one-half mile in the north-south dimension;

- ✓ 150-foot (later changed to 170-foot) antenna masts would be necessary;
- ✓ land acquisition costs could not exceed \$400 per acre.

These ruled out many potential sites.

50 cycle power

Not mentioned by Weldon was electrical power, and as the team soon realized, not all electricity is created equal.

In anticipation of the station's construction, priority orders had been placed for three RCA 50 kW transmitters and a behemoth Federal Telephone and Radio Corporation 200 kW machine (one of the RCAs served as a driver stage). A large amount of electricity would be needed. Not so obvious was the frequency of the available power.

Early on, the entire Los Angeles area was supplied with 50 cycle (Hz) power. Conversion to 60 Hz began in the 1930s, but

See DELANO, page 24 ►



Workers prepare to pour the concrete tower base for the first of the postwar 'curtain' antennas to be installed. This is in the late 1940s.

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Delano

► Continued from page 23
pockets of 50 Hz distribution existed for many years thereafter.

The OWI transmitters were ordered with 60 cycle power supplies, and while 50 cycle components could be retrofitted, this would likely have slowed things considerably.

Wartime demand for petroleum products caused drilling rigs and oil wells to spring up all over southern California. By late 1943, property that had once been considered worthless was now selling and leasing at a premium.

These and other sources of frustration eventually led Bowman to venture outside greater Los Angeles. One possibility was neighboring Orange County — at the time basically farm country with a population of less than 150,000. Some potential sites were identified, but objections were made to the planned 170-foot antenna masts due to the numerous military aviation training fields being built.

By year's end, more than 40 sites had been investigated and rejected.

A letter from the union

The new year brought little encouragement. Early in January of 1944 Bowman received a letter from the business manager of the IBEW local representing CBS Columbia Square technicians. The union knew of the ever-widening search and warned of some rather dire consequences if the sta-

tion were sited outside of Los Angeles:

"Once the construction had been completed you would be faced with an even more difficult problem when you attempted to secure engineering personnel. As you know, almost the entire Pacific Coast area is classified by the WNC as a Number One Shortage Area, with broadcast technicians considered a craft in which a critical shortage exists."

The letter cautioned that small-town operations were experiencing extreme difficulties in attracting qualified personnel, stating:

"... that no man, trained in radio, will desert the metropolitan areas where work can always be had in one of the many war industries, to bury himself in some such out-of-the-way place."

Undaunted, Bowman kept searching. Sites around Barstow and Bakersfield were examined and rejected. The search radius was now more than 100 miles from L.A. and kept expanding.

The team kept pushing north, and on Jan. 27 surveyed the small town of Delano. Initial results were most gratifying.

The next day, C. R. Jacobs, a CBS staffer working with Bowman, fired off a terse telegram to CBS management.

"... FOUND PROPERTY APPROXIMATELY FIVE MILES WEST OF DELANO ... WHICH CAN BE HAD AT \$50 PER ACRE OR LESS STOP APPROXIMATELY 145 MILES FROM

HOLLYWOOD OFFICE STOP DELANO POPULATION 5000 STOP NO OBSTRUCTIONS 360 DEGREES STOP WIRE REACTIONS TODAY SURE INCLUDING WELDONS APPROVAL. AM STARTING ACQUISITION ... STOP BEST REGARDS. — C R JACOBS"

Record construction

Ground was first broken on the Delano site in May of 1944 and by November, RF was being delivered to antennas.

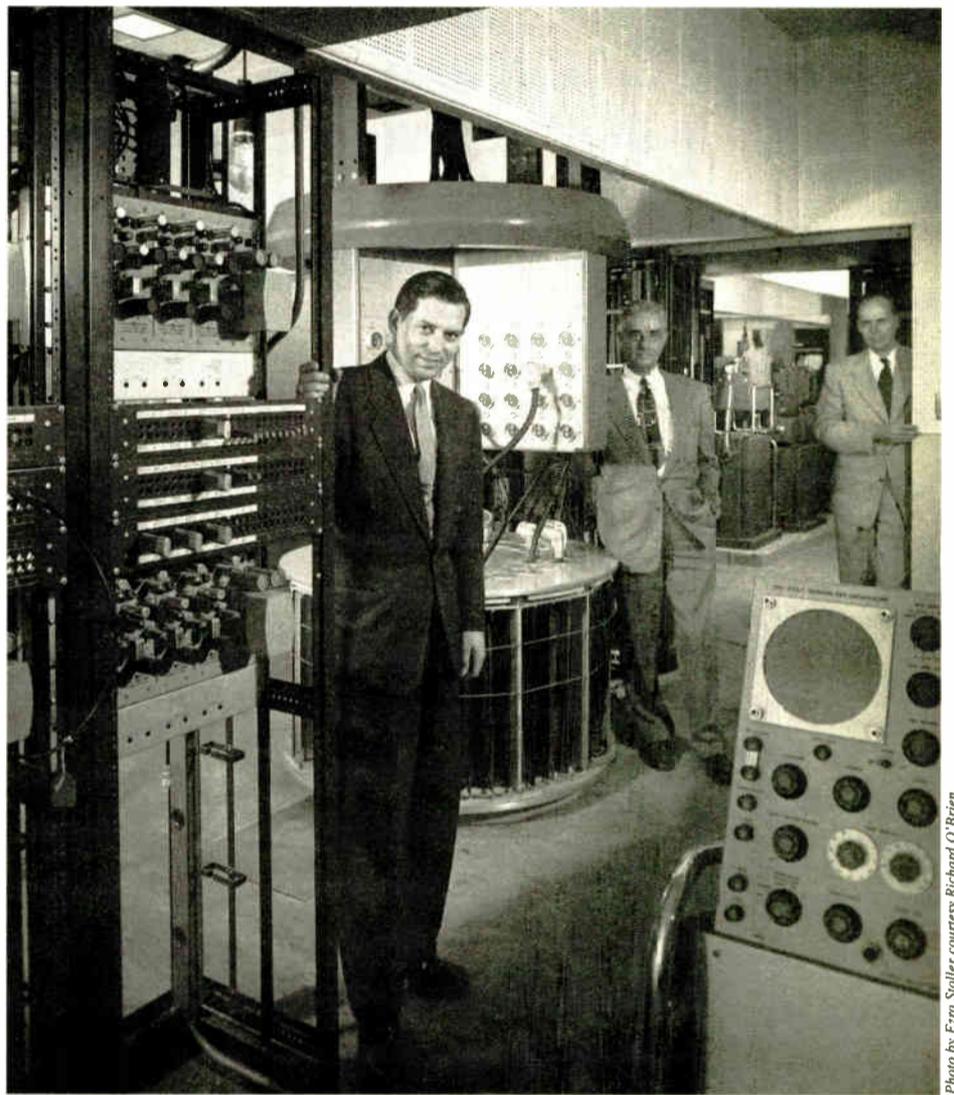
CBS was prepared with call signs specially requested for Delano to reflect the network's operating presence — KCBA, KCBF and KCBR.

Not long afterwards, Jack Quinn, a CBS engineer with commercial short-wave experience, was assigned to Delano in the capacity of engineering supervisor. He remembered the area as more or less the end of the earth.

"There were no farms, no nothing, just



Unidentified technicians perform shift duty



Lester Bowman is in the middle of this photograph taken in 1952 at the newly-completed CBS Television City in Los Angeles. In the foreground is Richard O'Brien, CBS senior project engineer, and to the rear of Bowman is Robert Monroe, CBS project engineer.

arid desert — miles and miles of white alkali soil," he recalled. "It was really worthless real estate. Maybe \$60 an acre. Of course that was before the irrigation systems were installed."

Delano and the Bomb

Harmonic filtering in large transmitters 60 or 70 years ago was not commonplace. A few months into Delano's life, this created problems in the testing of the world's first atomic bomb at a secret site, nearly 1,000 miles away.

That July 16, 1945 event relied on HF radio for communications between observation posts. The system had been checked and was functioning well as the minutes and seconds ticked off. However, at a most inappropriate time Delano butted in.

As related in the 1965 book "Day of Trinity" by Lansing Lamont:

"The final countdown began at 5:10 a.m. with a crashing rendition of the 'Star Spangled Banner.' Just as Bainbridge (a Manhattan Project scientist) gave the signal to Sam Allison (the countdown announcer) in the control center, radio station KCBA in Delano, California, crossed wave lengths with the Trinity frequency. The station, operated by the Office of War Information, was opening its morning Voice of America broadcast to Latin America. The National Anthem provided stirring accompaniment for Allison as intoned the announcement: 'It is now zero minus twenty minutes.'"

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in the Delano control room circa early 1960s.

tent with a kilowatt or less and conventional antennas, when there was time for idle talk among the Delano group, it often turned speculative. Just what kind of signal might they deliver with a super-power transmitter and an antenna with 20 dB or so of gain?

One day, temptation proved too strong for Quinn.

"I'll never forget connecting one of those curtains to the 200 kW transmitter, and connecting the station RCA AR88 receiver to another and calling CQ just once," said Quinn. "This was at noon and there was absolutely no propagation to Japan at my home station until 5 p.m. There must have been a thousand JAs calling back. Amazing what a good antenna and lots of power will do."

During the last 10 years or so, the VOA and others have deemphasized pro-

gram placement via HF radio, relying more and more on carriage by existing AM and FM broadcasters in countries they wish to reach. The Internet has also become a conduit for international "broadcasting."

The two OWI wartime stations constructed in parallel with Delano have been silent for a number of years, and the clock finally ran out for Delano at 8:30 on the evening of Oct. 27.

There was no special observance to honor the station's nearly 63 years of continuous broadcasting to the world — just a final scheduled program in the Thai language.

The author wishes to thank several individuals who assisted in researching and preparing this article: Victoria Brimmer, Richard O'Brien, Jack Quinn, Kathy Stewart, Charles Stinger, James Weldon and George Woodard. 

Want to Know More?



Photo courtesy Jack Quinn

Additional photos and a more detailed version of this article are available under the Roots of Radio tab at radioworld.com, along with a list of historical references used.



Jack Quinn came to Delano in 1944 as a CBS engineer in the capacity of engineering supervisor.

Following the sign-on at Delano, the OWI had scheduled musical programming.

"The Voice of America program now punctuated Allison's countdown with rapturous background music. Ken Greisen, lying next to I.I. Rabi (both bomb scientists) listened dreamily to the waltz from Tchaikovsky's Serenade for Strings."

No VSWR worries

The Delano Federal transmitter also lacked

other niceties including high VSWR indication and shutdown.

Delano's large antenna farm relied on regular inspections to flag problems. On one occasion, the "dawn patrol" technician noticed a fallen transmission line. No alarms had been triggered during the overnight schedule, and the Federal had contentedly pumped its 200 kilowatts into the desert sand, fusing it into a large mass of glass.

Quinn remembers another Federal heating effect.

"The tank circuit consisted of two huge parallel three- or four-inch diameter water-cooled tuned lines approximately 15-feet long, with one having a variable shorting bar for tuning. There was a copper hairpin output loop which coupled directly to the transmission line and it went out the window to the switching bay.

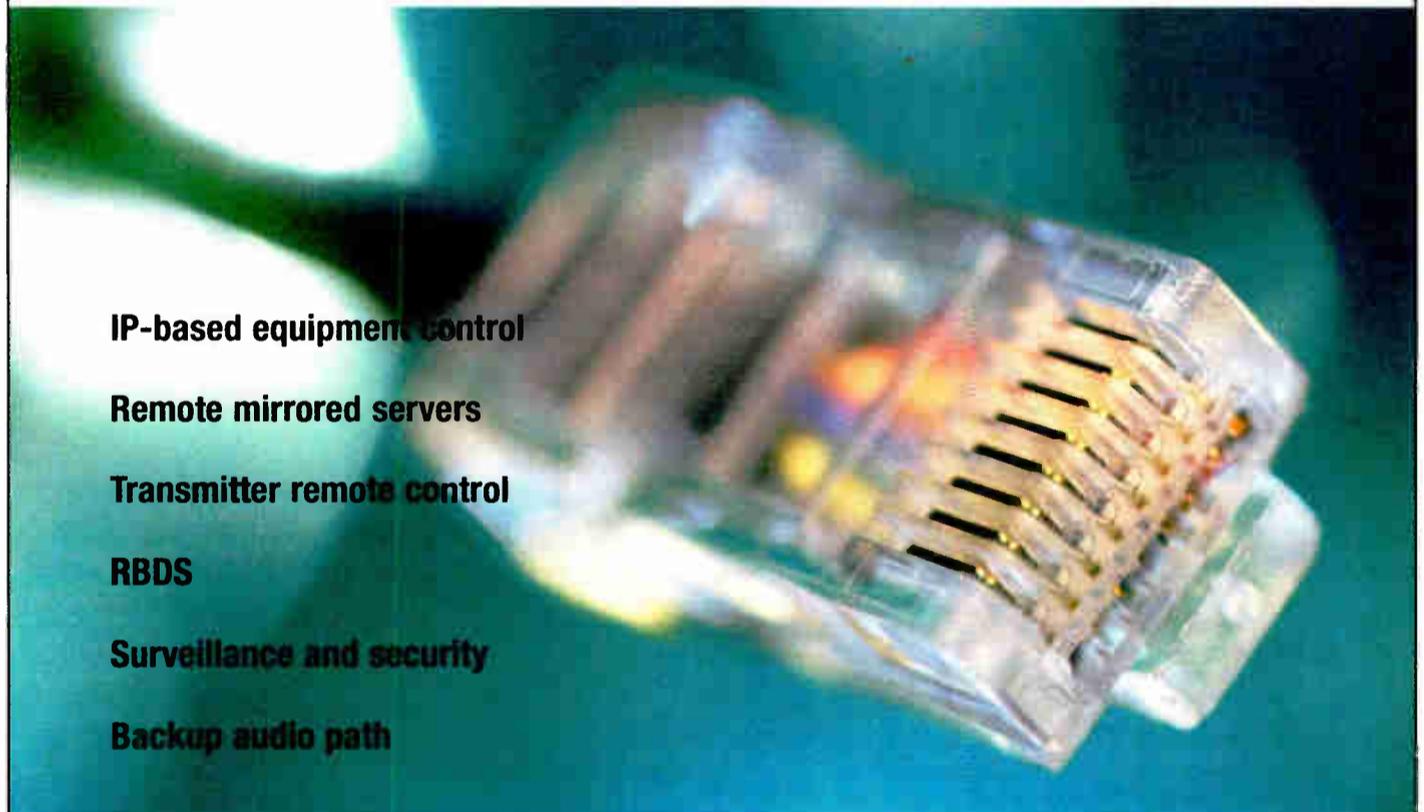
"As a demonstration of how open this arrangement was, when there was arcing, I would go in alongside this output line — maybe six feet away — and have the operators close the interlocked glass door and turn the transmitter on. Almost immediately you could feel both feet heating up. Then the heat would slowly creep up your legs. When it almost reached the groin area you'd flag the operator to shut it down.

"After power was removed your legs were still hot to the touch for some minutes before they cooled down to normal!"

A 'slightly illegal' ham rig

A number of the Delano engineers and technicians were also licensed as radio amateurs, and while most hams are con-

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Hy Lit Spun the Platters in Philly

by Ken Deutsch

For over 50 years, his baritone voice and lively delivery were heard on Philadelphia airwaves and at hundreds of personal appearances.

He was there when rock and roll was born in the 1950s. He hosted Elvis, the Beatles and the Stones in the '60s. And he helped promote the city's unique soul sound in the 1970s and '80s.

That voice was silenced when Hy Lit, the top-40 radio pioneer, died Nov. 17, 2007 at age 73.

White and black

It was 1954 when South Philadelphia-born Lit returned to his home town after college at Miami University.

At a promotional basketball game, Charlie O'Donnell, then program director of "Negro"-formatted WHAT(AM), offered Lit a Saturday morning job on the air.

O'Donnell, now the voice of TV's "Wheel of Fortune," was pleased with his new disk jockey, even though Lit was the only white jock on the station. O'Donnell offered him a daily nighttime show called "Rock and Roll Kingdom." Lit's first night on the air didn't quite go as planned.

"He played 'Beyond the Blue Horizon' at the wrong speed and then said a bad word on the air," said Sam Lit, son of the radio great and keeper of his flame at www.hylitradio.com.

"But it got better after that and Hy caught on. Black audiences made him an overnight sensation because he was able to talk their language using slang and rhymes. The other stations in town were playing Frank Sinatra and Patti Page so this is where rock and roll began."

When Hy Lit approached WHAT station owner Dolly Banks to ask for a raise commensurate with his audience

size, he was told to "get it from the record companies." That meant payola, which was not illegal at the time. Record companies were forthcoming with cash and other goodies for deejays, who in those days were allowed to choose their own records.

"Hy always declared everything he got on his taxes, so he never got a lot of heat," said Sam Lit. "What it was really about was the fact that New York senators didn't like black rock and roll and feared for their daughters. There was a racist current that was really behind the



Lit at a 1964 Beatles press conference at Philadelphia Convention Hall after helping 'smuggle' them in from Atlantic City on a fish truck.

"But Hy would never play a record he didn't think would be a hit," said his son. "A lot of new artists he liked got their first exposure on his show and went on to become national stars."

In 1960 the U.S. Senate began its inquiry into this practice of "pay for play" and caught a lot of big names in its web including fellow Philadelphian Dick Clark, who insisted that artists give him publishing rights to their music.

payola scandals."

In 1956 Hy Lit moved briefly to middle-of-the-road WRCV(AM) and brought with him his nighttime "Rock and Roll Kingdom." However, the NBC-owned station also required him to assume the air name "Johnny Dollar" to host "Sinatra and Company" in the afternoons, a show that was syndicated over the NBC radio network.

Eight months later Hy Lit made the

biggest career move of his life, to WIBG(AM), which was set to kick off a top-40 format.

"Hy had a 71 (Arbitron) share on Sundays and a 46 share during the week at his peak," said his son. "It was a rocket ride that lasted until 1968."

Up and down the dial

The end of the WIBG monopoly on young demographics came when Walter Annenberg, who also owned WFIL(TV) and TV Guide, decided to change WFIL(AM)'s format to top-40 to compete with "Wibbage."

At the end of the show, the Beatles stayed over at our house because the fans were watching the hotels.

— Sam Lit

"When WFIL changed formats, it started with no commercials, promoting 'non-stop music,' said Sam Lit. "That put a crack in WIBG, which was saddled with a lot of ads and news. My dad quit and went to WDAS(FM) as general manager and program director to launch 'Hyski's Underground,' one of the first progressive radio programs in the country. Dad also ran the 'Soul Patrol' afternoons on WDAS(AM). WIBG lost its ratings lead and was eventually sold. To show you the great management they had

See HY KIT, page 32 ▶

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Religious Managers Gather in Nashville

Christian Stations, Like Other Broadcasters, Are Redefining Themselves as Audio Content Providers

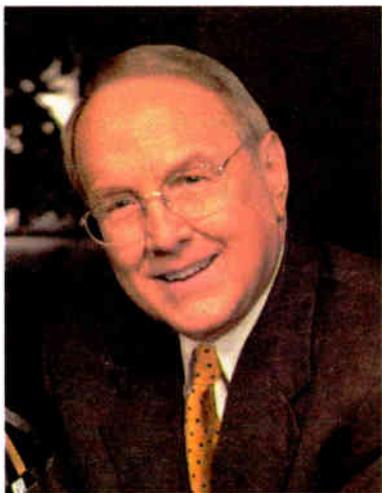
by Craig Johnston

When Christian broadcasters meet at their big annual convention March 8-11 at the Gaylord Opryland Resort & Convention Center in Nashville, many of the topics for discussion — softness in revenues, competition from new media, proposed performance fees for play of copyrighted material — will seem familiar to any broadcaster.

But one key issue that has reared its head for the National Religious Broadcasters' membership is unique to this market niche: the request by Sen. Chuck Grassley, R-Iowa, for financial records of six well-known evangelistic ministries.

"Senator Grassley launched an investigation of six of the largest television ministries because he said we're 501(c)(3) non-profits," said Craig Parshall, senior vice-president and general counsel for NRB, "and his sources indicate they may be abusing their non-profit status."

"We are very concerned about the implications for all non-profit broadcasters, radio, television, Web-based, all of them, because we feel this might be the beginning of an initiative for the federal government to step into all non-profit organizations, to look for roles for governance." Parshall will address Grassley's investigation in the Monday afternoon educa-



Dr. James Dobson, founder and chairman of Focus on the Family, is heard on 3,000 North American radio outlets. He'll speak at the closing banquet.

tional session "Religious Liberties Under Attack." He and other panelists also will discuss what they see as a threat to broadcasting posed by hate crime and Fairness Doctrine legislation.

Another piece of legislation that concerns NRB members is likely keeping broadcasters in general, and particularly radio, awake at night: a proposal that terrestrial broadcasters pay for copyright performance rights.

"We've looked at Christian broadcasting in general, and specifically within our organization, and we've found that

of those that classify themselves as religious broadcasters, about 50 percent of those also classify themselves as predominately music



Saturday's Opening Session includes remarks by Steve Brown of Key Life Network.

stations," said Parshall.

"So obviously a music performance fee would substantially cripple a lot of those, specifically the smaller ones, but also the



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larger ones. About 20 percent, by our count within our organization, would be paying full-scale commercial rates under whatever rates end up being set once this copyright law takes effect, if it's passed."

Though the hot-button issues Parshall mentioned have to do with law and regulation, NRB members face a plethora of business and market issues as well.

"We in radio are going through an incredible change, and the changes are going to be coming at us even more rapidly than most of us would like," said Paul Virtz, senior vice president for media at Northwestern Media, which is owned by Northwestern College in Minnesota.

Virtz supervised planning of radio ses-

sions for this NRB convention.

"In radio we're really moving away from the discussion or using the term 'radio broadcast,' and moving much more to delivery of audio content because Internet radio is already here, and we see it expanding significantly in the years ahead.

"So the question is: What do we need to do to begin to change the way we do things to account for all those changes that we see coming?"

New sources

One such change has been new sources of music for listeners who traditionally relied on radio.

With iTunes and the like able to provide exactly the music the audience desires, Virtz said radio has had to look at its entire packaging in an attempt to keep its listeners.

"[In] the early days of radio there was a strong emphasis on content, and then we've gone through this phase of consolidation, and everybody's been jazzed by new technology, what we can do to cut costs, and a lot of emphasis on the business side, if you will, of radio.

"Interestingly, the pendulum is swinging back in the direction of content. And everybody's saying, what will bring people to radio? There's a great deal of discussion now about developing personalities. What can we do to develop radio personalities, which will help attract listeners. That's the stuff that goes around the music."

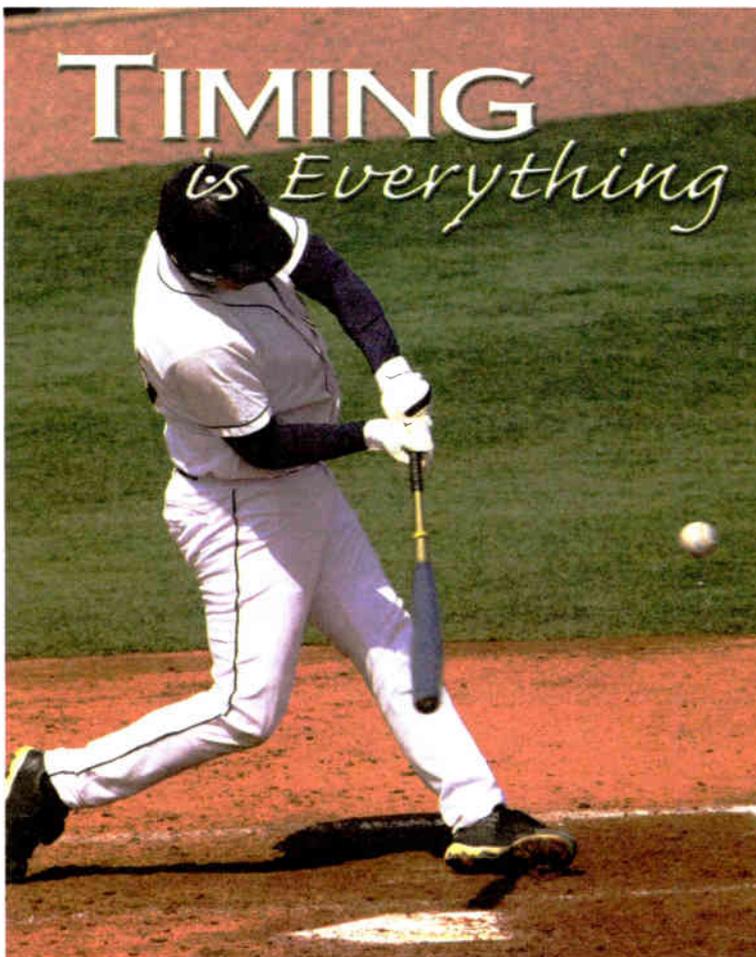
Among the sessions designed to address this is Monday afternoon's "What Arbitron Can Tell You About Your Programming." Presenters Alan Mason of EMF Broadcasting and Mason Meyer of Arbitron will consider which aspects of a station's programming are working and which aren't helping to reach its goals, where to look and tools that can help.

Virtz also pointed to the challenge non-commercial radio, including his own station, faces in evolving its fundraising model.

"We used to be able to do a three-day Share-a-thon, sort of a radio version of a telethon, and we were able to raise what we needed to stay on the air. That's not happening now."

NRB will discuss new strategies for

See NRB, page 30 ▶



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All options and settings are controlled from the front panel LCD display.

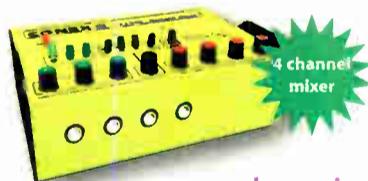
Unlike other RDS encoders this unit does not require a PC to setup or operate.



no computer required

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The TX600 is a lightweight and efficient rack-mountable FM Transmitter designed for low-power FM Broadcasters. It has a graphical LCD controller on the front panel for easy control of power and monitoring of system variables. The Frequency is adjustable from 87.5 to 108 MHz via the front panel or internally (which disables front panel) ensuring no unauthorised frequency changes. Full remote control & monitoring is possible via a PC



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FM Band Spectrum Analyzer and RDS Decoder

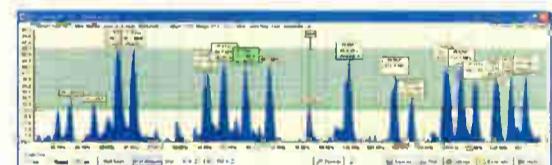
A simple, low cost scanning receiver for FM measurement & market analysis



Every radio station NEEDS one!!

The Band Scanner Pro can be used to evaluate FM broadcast band congestion and to log station identification parameters. The "Band Scanner Pro" can measure RF level, MPX deviation, Left & Right Audio levels, RDS and Pilot injection levels.

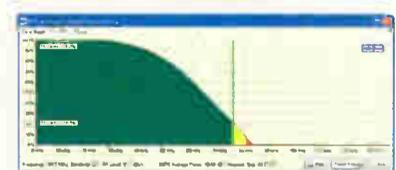
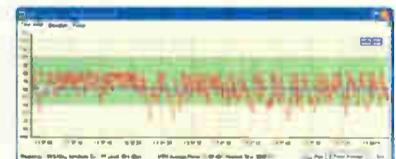
The system is powered by the USB port of any Windows PC. Supplied free of charge Windows software sweeps the receiver across the FM band, logging every carrier and generating a



spectrum display of carrier level vs. frequency. It then analyzes each carrier and creates a station list.

Stations with an RDS presence are further refined to show all the radio data groups being transmitted. Its interface is like a portable radio: It may be tuned manually through the receiver screen or by double-clicking a point on the spectrum plot or an entry on the station list.

Spectrum plots may be saved as jpg or bmp files. The RDS data error level is graphed in a separate window on the receiver screen. The program can be monitored with headphones plugged into a standard 1/8" jack.



low price

NRB

► Continued from page 28
fundraising in three Sunday afternoon sessions: "What Do I Say After 'Hello?' — Building Relationships with Advertisers, Underwriters & Major Donors," "Internet Management & Strategy for Executives" and "Inspiring Dedicated Donors."

The challenges that Christian broadcasters face in delivering broadcasts to Muslim countries will be front and center in the Monday afternoon session "Christian Television in the Turbulent Middle East," with panelists Terence Ascott, president of SAT 7, George El Khoury, president, Spirit Channel TV, and Kyle Young, international director of Inspiration Network International.

The NRB convention will feature several keynote speeches. A Saturday morning

keynote will be given by Phil Vischer, the computer animator who developed "VeggieTales," which has sold 50 million videos and is said to have revolutionized Christian filmmaking. He continues to pursue ways to integrate faith and storytelling through a new company, Jellyfish Labs.

301 concepts

Sunday evening will feature a keynote by Simon Swart, executive vice president and general manager of Fox Home Entertainment. He is credited with helping his company score record business in the new releases, catalog, DVD premiere and TV DVD categories.

Monday morning will feature a keynote with Mark Zoradi, president of Walt Disney Motion Pictures Group, and Randy Goodman, president of Disney's Lyric Street Records.

For a number of years, NRB sponsored an Internet Boot Camp on the weekend ahead of the convention to bring



Singer and harpist Amy Shreve will perform at the Women's Luncheon.

Web beginners up to speed on use of the Net for their stations.

"As we planned for this year, we real-

ized that the days of the Internet being kind of a scary thing are past us," said Chad Nykamp, director of marketing at Salem Web Network and part of the convention program committee.

The Web is not a competitive medium, it's a complimentary medium, he said.

"We passed on the 101-stage sessions, and we're incorporating some of the more advanced concepts, 201, 301 concepts for people to take it to the next level and get more out of the Internet."

Nykamp will be presenting the Monday morning session "Advanced E-mail Tactics," where he'll discuss using e-mail to grow the size of a station's audience, increase engagement and drive traffic and revenue. The session will review findings of e-mail usability studies and look at tactics that Internet leaders are using to increase deliverability, open rates and click-through rates.

The growth of social networks like
See NRB, page 31 ►

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What Do You Expect? Be Reasonable

There Has Even Been Talk in Some Clusters of Completely Eliminating Promotion Departments

In recent years there's been an unreasonable amount of anger projected at promotion departments.

While staffs and budgets have shrunk beyond anyone's imagination, what is expected of promotion departments has not changed.

Where clusters once may have had six promotion directors for six stations, many have been reduced to less than half that number. It's not uncommon in small and medium markets to have one promotion director for the entire cluster.

Instead of adjusting duties and expectations, promotion departments are more likely to be flooded with the same requests they previously received from sales and programming. What can be done about this?

Support

For starters, if you're a PD, GSM or GM, don't blame your promotion director for your lack of funding.

I have actually witnessed first-hand a PD getting really angry at a promotion director for not having enough T-shirts in the prize closet.

I saw a GM's blood pressure go up because the tents being used at events were falling apart.

I'll never forget seeing a GSM scream at a promotion director because the wrap on a car they brought to a sales remote at a car dealership looked trashed.

In every instance, it wasn't the promotion director's fault that he or she had no budget to take care any of these issues. What were they supposed to do, dip into their own bank accounts?

It may sound simplistic; but before lambasting your promotion department, consider whether or not the issue might be due to lack of funds rather than poor execution.

Knowledge and training are huge issues with promotion departments.

Not long ago, especially in major markets, there was a layer of higher-level marketing directors who would train new promotion directors. In many places, that level of expertise has been downsized

out of radio. Promotion directors are now often left to their own devices, trying their best to figure out event execution, problem solving and creation of promotions for sales.

These promotion directors typically are under 30 years old and have a tremendous willingness to learn, but someone has to teach them! Send them to seminars, find them a mentor, assign books about event organization and marketing — or run the risk of them teaching themselves.

Leave them alone long enough, and you'll end up with a promotion director who is convinced that he or she knows everything.

Adjust

With limited staff and almost no training, it's high time to adjust expectations.

I'm not suggesting you must settle for mediocrity. Instead, you should devise a plan that maximizes what your promotion department can do well.

Begin your plan by creating a calendar of events.

Perhaps you're accustomed to doing one large event per quarter and now must do only two per year. Maybe you did three sales appearances per week in 2007. Now you may have to limit those appearances to once a week — or have your sales assistants and account reps take over the typical promotion role at retail locations.

Instead of holding a grudge toward your promotion director for driving a beat-up station vehicle, you should plan on trading for a new one and then budget for a new wrap every two years — or don't wrap the car at all if you can't continue to make it look sharp.

There has been talk in some clusters of eliminating promotion departments completely. The thinking is that it's just another expense that doesn't contribute to either ratings or revenue, and that if the outside marketing budget has been eliminated or frozen, why does a station require a promotion department at all?

Such short-term thinking will create a radio

Promo Power



by Mark Lapidus

station that is little more than a jukebox with a morning show. You may not notice anything for three to six months, but gradually another station with better resources will assert itself in your community as a station with a personal touch.

I have watched the ax swing carelessly at promotion budgets with some very sorry results. The only good news is that typically the demand from clients and the audience has rejuvenated promotion activity back to where it belongs — at the heart of your radio station.

Contact the author at marklapidus@verizon.net.

NRB

► Continued from page 30

Facebook has led religious broadcasters to explore creating their own variations. In Saturday afternoon's "Leveraging Future Internet Technologies Including Social Networking," panelists will provide overviews of social networks and other Web technologies that can be used to increase ministry impact.

Convention organizers say the exhibit floor will have some 300 booths; exhibits will be open noon to 5 p.m. Sunday, 10 a.m. to 5 p.m. Monday and 10 a.m. to 4 p.m. Tuesday.

The exhibition floor will include a Tech Lab, where attendees can take in product demonstrations from equipment manufacturers, including side-by-side comparisons of certain gear.

On the Friday prior to the NRB convention, Women in Christian Media will hold a one-day conference, also at the convention center; and the NRB board meets.

Among other events of note, Saturday's Opening Session includes remarks by Steve Brown of Key Life Network, a radio broadcaster, seminary professor and author, and Dr. Dennis Rainey of FamilyLife, plus music by Michael W. Smith.

A worship service takes place Sunday morning at 9:30. The NRB closing banquet features Dr. James Dobson, founder of "Focus on the Family," and vocalist Larnelle Harris.

Entercom Helps Kids' Hospital



Boston's WMKK(FM) partnered with the Franciscan Hospital for Children to put on the "Mike FM Request for Help" radiothon to help raise money for the hospital. "93-7 Mike FM," a variety hits station owned by Entercom, encouraged listeners to call and donate in exchange for a song request. Celebrities and athletes donated time to volunteer. From left: Steven Snyder, chief development officer of Franciscan Hospital for Children; Joe DeAngelis, promotion director of 93.7 Mike FM; Maria Stephanos, Fox Boston anchor; Bill Alfano, FM marketing director for Entercom Boston; and Anthony Picarello, the station's APD.

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Hy Lit

► Continued from page 26
over there, the station owner gave up the license to WIBG(FM), saying that 'FM will never make it.'

Next, Lit the elder moved to WIFI(FM) in 1973, where offspring Sam would join the staff in 1976. As time went on Hy landed at WPGR(AM), starting an oldies craze that remains unabated. This led competitor CBS to flip its WCAU(AM/FM) to oldies and hire Hy to work there. The call letters were immediately changed to WOGL(AM/FM) and Hy spun the tunes seven days a week.

"Hy wanted to select his own music because he knew what the audience wanted," said his son. "The owners there, CBS, wanted a short playlist of tested songs. Hy was moved to the FM side, where he stayed for the next six years.

"The management gave my dad one spot an hour, 24 hours a day, to promote his outside record hops. He made more money with those appearances than he did on the air up until about 2002. When a new GM was brought in, he reduced my dad's airtime after it was made public that Hy had Parkinson's disease in 2001."

The disease didn't seem to affect his



At WIBG, 1966. Sam Lit notes, 'Hy is in Studio B and you can see the engineer behind the glass. The engineer controlled all audio levels for the studios, turntables and cart machines and the on/off microphone switch. The DJ had to wave his hand to have the mic turned on and off. Behind the engineer is the 50,000 watt RCA Ampliphase.'

ability, but the still-popular personality felt he was cut back because of this and sued the owners of the station. He also was upset that they had taken away his promised spot each hour with no reason given. The lawsuit was settled in 2005.

"We got a monetary settlement and free airtime to promote HyLitRadio.com," said Sam Lit.

Both the senior and junior Lits worked on the Web site, which offers three streaming music formats. Sam carries on the work and licenses some of the technol-

ogy he developed for the Web.

Sam had stories

Sam Lit recalled a funny story about his famous father.

"Well, when he brought Elvis Presley to Philadelphia, his manager 'Colonel' Tom Parker came, too," said Sam. "The show was sold out and at the end of it, Parker came over to my dad and said, 'I wanna thank you, boy,' and he gave Hy \$5. Can you believe that? My dad got \$5 as emcee for the concert."

When the Beatles hit town, special security measures were needed.

"We had a hard time sneaking the group into the Philadelphia Convention Center so Police Chief Frank Rizzo hired a truck from Hackney's Fish for the boys to travel in, and sent out a limousine as a decoy. That worked.

When my dad introduced the Beatles on stage, you couldn't even hear the guys play for all the screaming. At the end of the show, the Beatles stayed overnight at our house because the fans were watching the hotels."

A postscript to the story is that Hy Lit had given away so many tickets to the concert that it lost money.

Lit senior shared the secret of broadcasting with his son.

"He spoke softly and said to me, 'Listen very carefully and take this wisdom with you. When you are talking to your audience, you must reach out and touch their minds; you must reach deep into their souls and you must maintain their undivided attention long enough to say, 'and now a word from our sponsors.'"

As the late Hy Lit said at the end of his reign at WIBG, "Til we meet again and never part, sleep warm, my love."

Ken Deutsch is a former deejay who says he had no voice, no talent and very few listeners.

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

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Cunningham Model CM 30-50 Rack Mt Tube Type AM Transmitter - FCC Approved - 50 Watts on 1620 khz- Slightly used Great Condition. \$530.00 firm. Carrier-Current tuner, manuals, spare final and shipping included. Email shawn@musicchannel101.com for pics. Call 214-977-6169

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◆ READER'S FORUM ◆

New Band, New Rules

Your Dec. 19 issue contains an article titled "Time to Re-visit Channel 6 Protection?" It says engineering consultant Jack Mullaney suggests that when TV stations vacate Channel 6, that spectrum be allocated to expanding the FM band.

Considering Mullaney's proposal would require listeners to buy new receivers, using a transmitting system that is 50 years obsolete makes little sense. It would make a lot more sense to create an all-digital band, but let's not repeat the same mistakes we have made with AM and FM. I would suggest these restrictions for the new band:

- One new station per owner in each market.
- Strong preferences should be given to local owners as opposed to conglomerates.
- No preference should be given to applicants who propose first local service to tiny towns located right next to big cities.
- Any applicant who presently has a station in the market must turn off IBOC on his existing station(s) to qualify for a digital station. This will alleviate interference on both the AM and FM bands.

Whether the FCC would go along with this concept is another matter. Maybe with a new administration in Washington, factors other than big profits for giant corporations might prevail.

Paul S. Lotsof
Manager
KAVV(FM)
Benson, Ariz.

What Slow Pace?

I note with some interest the recent Ford press release regarding HD Radio's

growth in popularity, which cited that at least one HD radio station is now available to more than 80 percent of the population of this nation.

The release goes on to say that "more than 1,500 AM/FM stations are currently offering digital content, including more than 700 HD2/HD3 multicast stations [broadcasting] unique formats and content. All a consumer needs is a new HD Radio receiver; the content is free."

And, there are more than 50 different HD Radios available across the U.S. It took four years from the time the first HD stations went on the air in 2003 for this to happen. Pretty slow, right?

Almost nobody remembers it now, but I have to drop in this bit of history, just for a sense of perspective. When was FM stereo introduced? The FCC approval on the Zenith GE system came in 1960. The first station to have it was WEFM in Chicago, which at the time was owned by (surprise!) Zenith.

How long did it take for FM stereo stations to get to the point of majority in this country? About 10 years. I remember; I was in my teens and early twenties through that time, and I was all-radio all the time, even then.

How long after that did it take for FM station revenues to overtake that of AM? About five years, in 1975 to be exact.

With all that in mind, and given that HD Radio has been with us for less than five years, why are the naysayers griping about the "slow pace" of HD Radio acceptance? After all, the satellite boys were on with their less-than-superior product several years before HD Radio and they've yet to turn a profit themselves.

This is a great lesson for you doomsayers out there who predicted that HD Radio is a flawed technology that will never be accepted by the public. It's about time that you all became part of the solution instead of part of the problem.

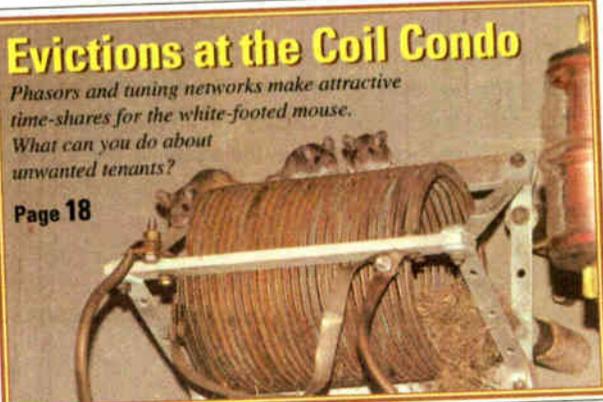
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An Easy Solution

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Take the front page of your Nov. 21 issue ("Evictions at the Coil Condo").

Evictions at the Coil Condo
Phasors and tuning networks make attractive time-shares for the white-footed mouse. What can you do about unwanted tenants?
Page 18



AM Towers Fingering as Cancer Cause
Study in South Korea Raises Concerns But Is Seen as Flawed by U.S. RF Experts
by Randy J. Stine

WASHINGTON An epidemiological study by South Korean researchers shows that children who live close to AM radio

Got a family of mice living in your transmitter shack? No worries. Let 'em be. If the Koreans are right ("AM Towers Fingering as Cancer Cause"), they'll be dead of cancer within a month.

Steve Jess
Boise, Idaho

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GUEST COMMENTARY

Embrace the New Reporting Requirements

Something Good Definitely Can Come From Something Perceived as Bad

by Paul R. Gathard
President
Barnabas Road Media

Although many commercial and larger non-commercial radio Webcasters cringe when they think of having to meet the new SoundExchange requirement of reporting how many people heard each song over the Internet, smart broadcasters should look deeper into what this type of reporting technology can do to enhance the revenue of their radio stations. The possibilities are many.

If a given reporting technology can tell you how many people hear each song as it is played over the Internet, it also should be able to tell you how many people heard each radio advertisement aired as well. Real listener statistics can give your advertising sales presentation punch and authority.

Not only can you tell advertisers how many heard each ad online, but listener demographics also can be gleaned from the same data with a little extra effort. This may lead to targeted advertising programs designed to reach only a certain demographic.

The Internet is a powerful tool for broadcasters. The authoritative listener data missing from over-the-air broadcasting is abundant when using the Internet. Except for the largest online broadcasters, a void in online statistics has been force-

required reporting services at the least expensive cost, and then ramping up advertising data programs on a scalable basis depending on audience size. In short, do what you must first, and then scale in the use of advertising data to support your online marketing efforts.

We read how big and important Internet radio is and will be in the future. Making Internet radio something more

This forced compliance to the new per-performance reporting standard may prove to be the catalyst for change that leads to the survival of online simulcasting produced by broadcast radio.

fully filled by the mandated Copyright Royalty Board's "Per-Performance" reporting requirement.

Once a radio station's automation system data is integrated with the streaming media server data, wondrous new possibilities will find their way into the sales portfolio of general managers and network executives.

The key to success for small and large radio operations alike is obtaining the

than a line item operating expense should be your ultimate goal. You'll not invest time and money into building an Internet audience until you learn how to use this magnificent medium to generate additional revenue. You'll not be able to measure your success online until you have relevant data from and about your online audience.

No radio station initially wants the new "Per-Performance" reporting standard. If

your station is going to keep its online broadcast, compliance is not the issue. The real question to be answered by commercial radio stations is how you will make a profit from your online broadcast.

Non-commercial radio stations have to become creative in using their online broadcast to increase listener support and show program funding donors how they can benefit from online broadcasting. As a side note, non-commercial broadcasters can actually sell hard-hitting radio spots on their online broadcast. These same advertisements would be prohibited if broadcast over-the-air.

Turning lemons into lemonade

Radio broadcasters believe the Copyright Royalty Board decision was flawed and just plain wrong in terms of the performance royalty rate. Ultimately, this forced compliance to the new per performance reporting standard may prove to be the catalyst for change that leads to the ultimate survival of online simulcasting produced by broadcast radio.

Station owners and network executives must look beyond the basic function of compliance and see how this new technology can benefit radio stations. Online radio channel aggregators and hosting services that support good advertising and reporting capabilities can help bring advertising revenue to even the smallest broadcasters.

An example of a new advertising platform is TargetSpot, which allows broadcasters to monetize their streams by selling a portion or all online ad inventories via TargetSpot's unique marketplace. (BRM has no financial interest associated with TargetSpot.) TargetSpot connects broadcasters to advertisers and ad agencies seeking new ways to reach engaged audiences as well as smaller advertisers who take advantage of the self-service and targeting tools provided.

Radio stations can sell available local online inventory and then let TargetSpot fill the balance of the inventory with national and regional ads. Your local advertisers can even specify which Zip codes they want their ads to play within. TargetSpot is one way to make lemonade out of the lemons handed out by the CRB.

Online radio has been forcibly kicked out of the nest and it must learn to fly or crash on the rocks below the cliff. The monetization of a station's simulcast doesn't have to be as painful as many have described it to be. There is a technology-driven way to deliver powerful advertising messages to your online audience and to make money in the process.

I have often heard the old saying, "Opportunity is born out of adversity." Consequently, broadcast radio must embrace the new per-performance reporting requirement, and seek to monetize its online broadcasting. Something very good can most definitely come from something perceived as very bad.

Barnabas Road Media, based in Indianapolis, provides streaming media services to broadcast radio in North America.

◆ READER'S FORUM ◆

Whole Wheat Goodness

Paul, greetings from KONQ, the FM voice of Dodge City Community College. I enjoy reading Radio World and want to thank you.

Your story on vocalo.org is not complete without acknowledging successful Internet Webcasting efforts such as Whole Wheat Radio. From its opening Web page:

"Whole Wheat Radio is an Internet Webcast originating from Talkeetna, Alaska. ... We are in the midst of our sixth year of live Webcasting 24/7/365, and our third year of presenting live house concerts to both the local and the worldwide Internet community. We are a non-profit, non-hype driven labor of love to which listeners have donated \$32,530.38. We feature the music of 4,095 truly talented independent artists who appreciate the opportunity to have their 43,100 songs heard on a funky, non-traditional Webcast.

"We've had more than 11,746,195 listeners to the more than 607,715 tunes we've played. Listeners have purchased 2,209 CDs from CDBaby via WWR, generating \$2,222 in referral payments for WWR. We tend to appeal to grownups who don't take life too seriously — the average age of people hanging out here is 47 years old.

"Oh, and the mysterious 'we' that keeps cropping up in these sentences is: you. You are the Whole Wheat Radio community that makes everything fun, creative and independent. The WWR Web site/Wiki [page] that you're looking at right now forms the basis of the

WWR community. This site is being built by people just like you — 1,578 of them to be exact. It is constantly changing as new pages are added, and other pages are revised and edited.

"It is a huge dynamic knowledge base of both independent artists and music that grownups like — and there's always something more to contribute."

*Tom Zachman
Advisor*

*KONQ(FM)/KDCC(AM)
Dodge City Community College
Dodge City, Kan.*

Proposed East Coast Broadcast

The National Institute of Standards and Technology (NIST) is considering the establishment of a U.S. East Coast low-frequency radio station broadcasting NIST time in binary code format to complement the present NIST 60 kHz, WWVB broadcast.

More information about the current WWVB broadcasts is available at <http://tf.nist.gov/stations/wwvb.htm>.

The proposed new East Coast broadcast will operate with the same time code format as the present WWVB signal, but at a different carrier frequency, potentially at 40 kHz. In 1999 the power of the WWVB broadcast out of Ft. Collins, Colo., was increased from 13 kW to 50 kW and has since been increased to 70 kW. Even at this power level there are locations on the East Coast that have difficulty in consistently receiving the time code.

It has been suggested that an East Coast broadcast would make the time code easier

to receive and increase the sales of radio-controlled clocks. It also would provide new opportunities for the development of radio-controlled timing devices in appliances and other consumer products.

If such a new station would be valuable to you or your company, let us know how it would help. Please send your comments to: John Lowe, NIST, 325 Broadway, Boulder, Colo., 80305; lowe@boulder.nist.gov.

*John Lowe
Station Manager
WWVB
Fort Collins, Colo.*

SBE Coordination Program

I read with some amusement Mario Hieb's guest commentary regarding the NFL's Game Day Frequency Coordination Program. It reminds me of a conversation I had last year with someone on the topic at the Super Bowl. I don't see what is so special about being a coordinator; Mario waves his hand and says "Pay me a lot more money because I'm an EE and PE and they're not."

What I find infinitely amusing is this op-ed is from an incorrectly informed member who continuously chides the SBE coordination program in general. Why? It interferes with his fee-based coordination services company. It's not like he's trolling for clients ... is he? Naw ...

*Michael G. McCarthy, CSRE, CEA
NFL Game Day Frequency Coordinator
SBE Part 74 Frequency Coordinator
— 1 GHz and Below
Chicago*

Write to RW

Send e-mail to radioworld@nbmedia.com with "Letter to the Editor" in the subject field; fax to (703) 852-4585; or mail to Reader's Forum, Radio World, 5285 Shawnee Road, Suite 100, Alexandria, VA 22312.

Radio World

Vol. 32, No. 6

March 1, 2008

Telephone: (703) 852-4600

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Web site: www.radioworld.com

Next Issue of Radio World March 12, 2008

Next Issue of Engineering Extra April 16, 2008

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

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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, 810 Seventh Avenue, 27th Floor, New York, NY 10019. Phone: (703) 852-4600, Fax: (703) 852-4582. Periodicals postage rates are paid at Falls Church, VA 22046 and additional mailing offices. POSTMASTER: Send address changes to Radio World, P.O. Box 282, Lowell, MA 01853. REPRINTS: For reprints call or write Caroline Freeland, 5285 Shawnee Rd., Ste. 100, Alexandria, VA 22312-2334; (703) 852-4600; Fax: (703) 852-4583, Copyright 2008 by NewBay Media, LLC. All rights reserved.

—Printed in the USA—



The Real Digital Radio Revolution

Amid all the focus on IBOC in the U.S. transition to digital radio, there's another digital development that may prove far more pivotal in its ultimate effect on the radio industry.

It is the use of digital technology for audience measurement. You can argue that IBOC provides improvements in many areas, but some are subtle, and all of them will only take full effect gradually as receiver penetration expands. In this respect, the HD Radio transition is evolutionary, which is in fact an intentional aspect of its design.

On the other hand, the conversion from a diary system to the digital watermarking and recording mechanisms that are used by the Arbitron Portable People Meter (PPM) — or other similar, proposed systems, should any serious contenders ever emerge — will be a dramatic shift, and transition to them will occur quite quickly in a given market. As such, they can truly be considered revolutionary.

Frankly, it's amazing that commercial radio has flourished as an advertising business for so long with such a ludicrously outmoded and statistically suspect method as the diary. The coming of the PPM or some equivalent, competitive technology will only accentuate this in hindsight.

As with any change so fundamental and important, contin-

ued sparring among players and some technical bumps in the road should be expected as the transition progresses. Despite current controversies, however, in the end we believe that radio ratings data collected by diary will soon seem astonishingly antiquated.

We also take technical interest in how the science of "auditory masking" is a fundamentally enabling design principle on all of radio's current transition frontiers: IBOC, Webcasting and the PPM. Our engineering side is comforted by such symmetries, and inspired by these divergent applications of the same underlying process.

We wonder what other exciting and useful developments may yet spring from the same root.

Meanwhile, we have faith that broadcasters will adapt to these new audience measurement techniques successfully once they are in place and stable, and that radio will be all the stronger for it.

It's only fitting that the industry put to use the best contemporary tools available, to improve both its service and its business operations.

— RW

◆ READER'S FORUM ◆

EAS

I was aghast when I read some of the comments regarding EAS ("Will 24/7 Station Staffing Be Required?," Jan. 2).

For instance, the Public Interest Coalition "recommends that automated broadcast operations be automatically overridden in the event of an emergency."

Goodness! Is there a station in these United States that does not have its EAS unit inserted into its program line to the transmitter? If so, buy the appropriate

enforcement to do it that way, that is not the fault of the various stations; it is the fault of the people who drew up their plan.

As for satellite stations with no local staff, they should be set up to monitor their local LP1 and LP2 at a minimum, and have somebody verify EAS compliance each week. The parent station in another county or state does not have to be involved, but could call local agencies if the situation warranted it.

I do agree with those who said that requiring stations to be manned 24/7 would likely be an economic hardship on those who are unattended. That's why they are unattended; they can't afford to operate otherwise.

If "the commission should require every radio broadcast station to be manned at all times that the radio station is on the air," I can assure your readers that there will be 100 percent compliance. Why, you ask? Because many would not be on the air — unable to afford to do so.

So, how is "the public interest, convenience and necessity" served by driving stations off the air, thus preventing them from broadcasting emergency messages?

Glen Kippel
 Engineer

KWXY(FM)
 Cathedral City, Calif.

There is no need to have an operator on duty to forward any EAS message.

— Glen Kippel

box, or at the very least hustle down to the nearest RadioShack and buy a project box, relay and a wall wart. Hook it up. There is no need to have an operator on duty to forward any EAS message.

Or this from Nikolaus Leggett: "Humans can provide emergency services that no automated services can provide." That's one of those "duh" statements.

In the case of Riverside and San Bernardino counties, the humans are the ones at the county EOC or the regional NOAA office. They get the information together, send it out to the appropriate LP1 and LP2, forward it to everyone else and it is sent out either manually or automatically to the public.

The law enforcement agencies funnel anything warranting an alert through the county Office of Emergency Services. That way they only have to do it once and don't have to waste time calling all the radio and TV stations and cable operators. If other state and local plans require law

Customer Service Is Not Dead

I wanted to write to bring recognition of what I consider outstanding customer service from a broadcast equipment manufacturer.

I've been involved in broadcasting since my teens, thanks to the local community FM station I was part of in the '70s. This would pave the way for my employment at several AM and FM stations in the capacity of engineering.

In my career, I have discovered that some equipment vendors take a dim view to servicing beaten-up equipment, usually hoping that the customer will pony up to purchase a replacement unit instead.

Sometimes the customer just doesn't have that luxury, for a variety of reasons.

I'm in the process of building up an on-campus AM and leaky coax FM station for a high school in the district where I'm employed as a computer and electronics technician. In the process of acquiring equipment, I procured a couple of older audio meters manufactured by Dorrough Electronics.

Having used and installed Dorrough products for more than three decades I was quite aware the quality of its products. While I felt these units had seen better days, my query to Dorrough was quickly answered by Mike Dorrough's wife, Kay.

Kay was extremely helpful and asked me to send them in for service. It was wonderful to see a company that takes a conscious effort to keep its customers' needs in mind regarding factory service. In spite of the meters' condition, I was thrilled to receive the units back; not only looking great but also operating wonderfully.

In a time where people question the products and support provided by many manufacturers, I just want to let the engineering community know that Dorrough is a cut above in customer support and satisfaction.

Bill DeFelice
 Freelance Broadcast Engineer
 Electronics Technologist
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