BANKRUPT CLIENT? HERE'S HELP. — Page 16

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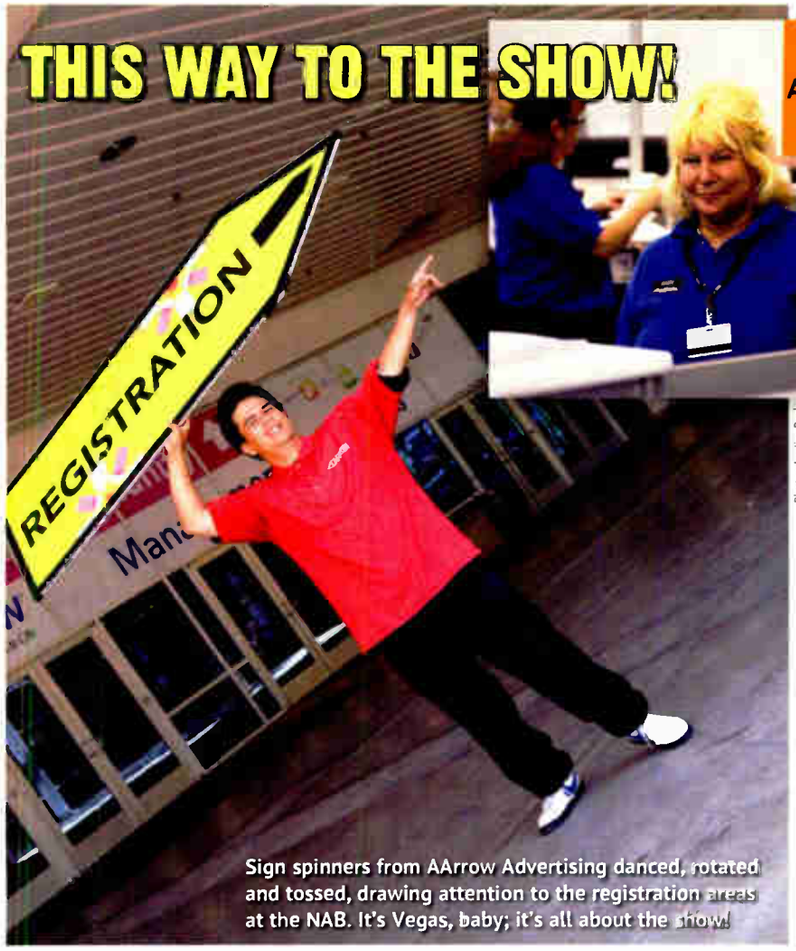

Photos by Jim Peck

Sign spinners from AArrow Advertising danced, rotated and tossed, drawing attention to the registration areas at the NAB. It's Vegas, baby; it's all about the show!

Take a Visual Tour of the 2012 NAB Show Inside These Pages

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AMs Win Expanded Access To Pool of FM Translators

More Decisions to Come as FCC Works Through the Translator/LPFM Scrum

BY LESLIE STIMSON

WASHNGTON — Industry organizations are weighing in on how the FCC will juggle demand for FM spectrum from translator applicants, AM stations that want to use those translators and low-power FM hopefuls.

One decision has been made, and AM operators soon will have more access to the FM band as a result.

The FCC in 2009 began allowing AM signals to be carried on FM translators; but until now, only translators authorized before May 2009 could be used. Some 500 to 600 AMs are doing so, BIA/Kelsey Vice President Mark Fratrik told Radio World.

A practical effect of that date restriction was to exclude pending Auction 83 FM translator applications from the pool of potential "cross-service" translators.

The FCC now has decided that any translators ultimately approved from among the current backlog of 6,500 or so applications can be used to retransmit AM signals. (The change takes effect 30 days after publication in the Federal Register, which had not happened as of late April.) However the commission deferred a decision on whether *future* translator applicants may retransmit AMs.

The lifting of this date restriction for backlogged applicants is among the FCC's initial decisions about

(continued on page 12)

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NAB SHOW IN PHOTOS

All photos by Jim Peck

David Maxson and Gary Kline prepare for a National Radio Systems Committee meeting.

Victoria St. John, Vermont Public Radio director of operations, asks a question during the Public Radio Engineering Conference at Caesar's Palace prior to the convention. PREC was organized by the Association of Public Radio Engineers and was well attended.

Members of the board of the Association of Public Radio Engineers: Rich Parker, Vermont Public Radio; Bruce Wahl, NPR; Daniel Mansergh, KQED; Jobie Sprinkle, WFAE; Shane Toven, Wyoming Public Radio; Robert Carroll, WWNO; Roger Karwoski, KBIA; Doug Vernier, V-Soft Communications; and Ralph Hogan of KJZZ, president of SBE.

SBE's John Poray, Vinny Lopez and Barry Thomas react to Wayne Pecena's commentary at the Ennes Workshop session 'The Broadcast Engineer in an IT World.'

More on page 8

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World Radio History

Wood Reflects on 40 Years

Inovonics Started With Replacement Recorder Electronics for Vacuum-Tube Machines

Inovonics turns 40 this month. The manufacturer has 13 employees; its offices and manufacturing are in a building it recently purchased in Felton, Calif., between Silicon Valley and the Monterey Bay.

I emailed with founder and owner Jim Wood.

Happy 40th anniversary Jim. You've said that the company started with a single product idea. What was that?

Our first product was a replacement electronics package for the Ampex and Scully reel-to-reel tape recorders that were still in wide use, both in broadcasting and in recording studios, in the early 1970s. The mechanics of those machines were simple and built like the proverbial battleship, but the amplifiers were noisy, intermittent vacuum-tube designs that posed no end of maintenance hassles. Our drop-in solid-state replacements gave these recorders a new lease on life. Ironically, the old vacuum tube amplifiers are now in great demand as mic preamps in some circles.

Other than yourself, were there one or more people early on who were particularly influential in helping Inovonics get off the ground as a business?

Inovonics was started by myself and Mark Drake, a fellow I had worked with in the music business. We were both let go shortly before the company we had been with failed — through no fault of ours, of course. Jobs were scarce at that particular time, so we chose to strike out on our own. Mark stayed with Inovonics for a number of years before following other interests.

How has the company's product mix changed with the times?

We discovered rather early in the game that the broadcast industry was a far more stable market than the music business, although most of our past experience had been in audio recording. As our replacement electronics found their way into more and more radio stations, we got to know the broadcast people and became responsive to their specialized needs.

Photos courtesy Inovonics

Jim Wood

At the 1983 NAB convention, Chris Kidd, facing camera, talks to an attendee in the Inovonics booth, which featured the MAP-II airchain processor for AM plus its small cousin, the Model 215.

I believe that RDS and its HD Radio counterpart can do more than what we see now: applications that will help keep terrestrial broadcasting competitive with broadband (Internet) program distribution.

– Jim Wood

One need was for more aggressive audio processing than afforded by the CBS Audimax/Volumax combination in universal use back then. This piqued our interest in audio processing and spawned a line of audio processors, from simple production limiters to quite ambitious analog airchain designs, and from there to our latest all-digital audio processors. As time went on, our sensitivity to broadcasters' needs saw our development of mod monitors, translator receivers and RDS encoders and decoders.

From the beginning, our design philosophy has been to offer the best performance at a responsible price.

What are your thoughts about the way RDS rolled out in the United States, and the role it plays in the market now?

European broadcasters see RDS as a service to their listeners; U.S. broadcasters want to generate revenue from it.

We were early proponents of RDS in the U.S., importing technology from the U.K. for our first encoder product. It has been a slow implementation, but once

FROM THE EDITOR

Paul McLane

World Radio History

THIS ISSUE

MAY 9, 2012

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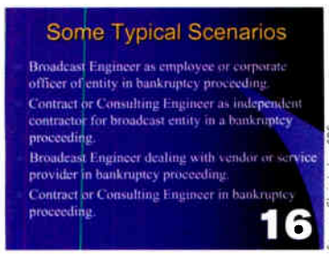

Source: Chris Imlay, SBE

NAB SHOW IN PHOTOS

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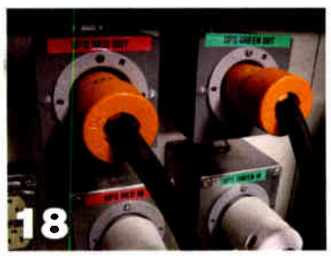

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OPINION

'Broadcasting Is a Robust Business' . . . 45

Photo by Jim Peck

Ben Barber of Inovonics, right, talks with Saul Perez of KPWR(FM) Los Angeles at the 2012 NAB Show.

penetration reached about 10 percent, everyone wanted to climb aboard.

Easy integration with broadcast automation has been a keynote of RDS expansion, and digital-stream consolidation software now allows the clever broadcaster to add weather, traffic and advertising to the usual artist and title information.

I believe that RDS and its HD Radio counterpart can do more than what we see now: applications that will help keep terrestrial broadcasting competitive with broadband (Internet) program distribution.

What's your feeling about HD Radio?

I have mixed feelings. I consider the distribution of additional, diverse programming (HD2, etc.) a great advantage of HD Radio, although one could argue this based on programming redundancy one already hears in most markets.

The audio quality issue is a mixed bag. In a car I can hear a subtle difference with FM, but the difference on AM is maddening as the radio "fades gracefully" from one mode to the other.

One HD AM station in my home market (L.A.) has worked closely with the people at Orban to extend their analog response to something over 7 kHz. The difference between this station and the other HD stations, all with a strict 5 kHz cutoff, is easily discerned on my stock Honda radio, even though the radio, itself, begins rolling (gently) at about 2.5 kHz.

I really think that AM HD ought to be shut off at night.

How has the nature of audio processing changed in recent years?

The technology behind audio processing has become much more sophisticated in this "digital age." It is now easier and far less expensive to provide functions that were difficult or impossible to realize using analog circuitry, with processing artifacts reduced, eliminated or hidden.

But don't believe for a minute that the "loudness wars" are over. The desire to be as loud or "powerful-sounding" as the competition remains a prime goal of the broadcaster, and the ability to deliver loudness is touted by manufacturers in their advertising.

Loudness can now be accomplished without the attendant distortion common in earlier times, though the concept of "listener fatigue" is still a factor for consideration.

Most memorable moment in 40 years of manufacturing?

The company came quite close to going belly-up in the mid-1980s, suffering from a soft economy, an embezzlement and being forced out of our rented Silicon Valley facility at the onset of the personal computer boom. The resultant regrouping and move to new quarters was a tenuous, sobering and educational time in the company's history.

AM radio's adoption of the NRSC Standard brought us out of the slump; we worked around-the-clock for weeks to meet the demand for equipment ahead of the 1989 FCC mandate.

See an Inovonics company timeline at http://radioworld.com/May-09-2012.

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

NPR LABS UNVEILS ONLINE STATION MAPPING TOOL

It's been hard for public station personnel, both radio and television, to predict service coverage accurately since the digital transition began.

NPR Labs is hoping that its new interactive online mapping system offering coverage prediction will help engineers and managers get a better handle on their predicted analog and digital coverage on automotive, mobile handheld and indoor receivers. A link to the online mapping system is at *http://radioworld.com/May-09-2012*.

The Mapping and Population System tool replaces the NPR Online Viewing Application page at *nprlabs.org* with new coverage projections for high-power digital radio and new mobile handheld coverage for public TV stations, and correlates coverage to detailed demographic information from the newly released 2010 U.S. Census.

NPR Labs Senior Technologist John Kean tells me that the online mapping system will allow overlays to compare analog and HD Radio at both the original and higher FM power levels. It includes exact locations for transmitters and FM translators and population coverage predictions.

Using the system will help radio stations "see how much more coverage the FM digital power increase would get them," Kean says.

The DTV coverage, especially the mobile handheld coverage, will predict how well viewers may be able to receive full-service and translator systems. The ATSC-M/H coverage was developed with assistance from the Open Mobile Video Coalition.

"The demographic data is ideal for gauging and comparing coverage for actual populations, which planners and underwriters may use," Kean says.

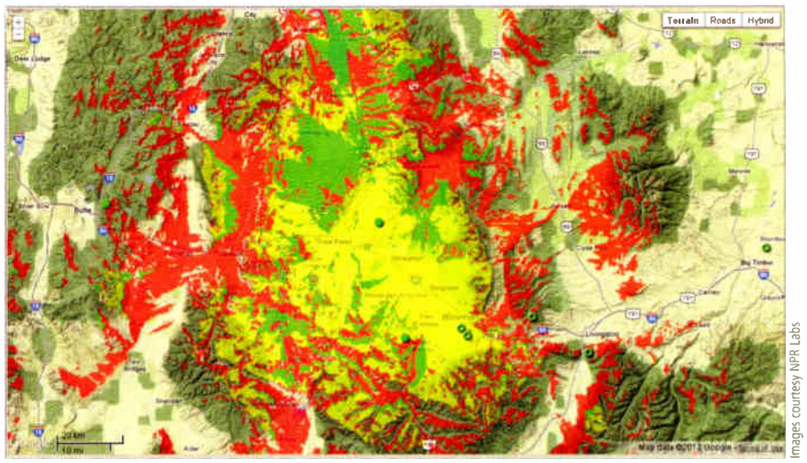
The online mapping system is free and open to anyone. It works best with online browsers such as Chrome, Firefox and Internet Explorer 9 and above.

Users can search by call sign, address, and latitude and longitude. The map jumps to that location and shows all the stations in the area. Available are analog FM coverage, as well as HD Radio coverage at the original digital power level of –20 dBc and also –14 dBc, reflecting the blanket digital power increase. You can adjust the transparency of the overlays, zoom at will and change the background from terrain to roads or satellite view.

The maps include commercial station locations and basic information about those stations.

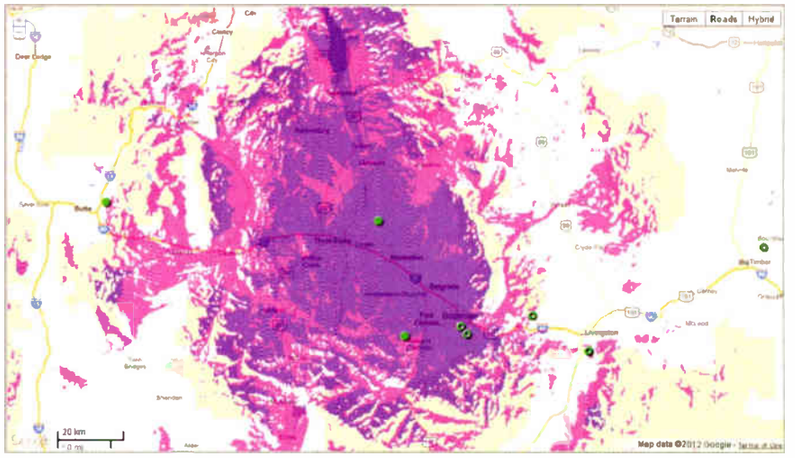
Lots of engineering groups advised NPR Labs on the project, including Jim Kutzner and Eric Wolfe of the Public Broadcasting System and members of the PBS Engineering & Technical Advisory Committee along with Victor Tawil, Association of Maximum Service Television, which is now part of NAB Technology. Members of the Open Mobile Video Coalition, Charles Cooper of du Treil Lundin & Rackley, Jon Dewitz of the U.S. Geological Survey and Rob DeBolt, retired from the Institute for Telecommunications Sciences, also helped.

The new NPR Labs Public Radio-TV mapping tool was funded with one of the last grants from the Public Telecommunications Facilities Program.

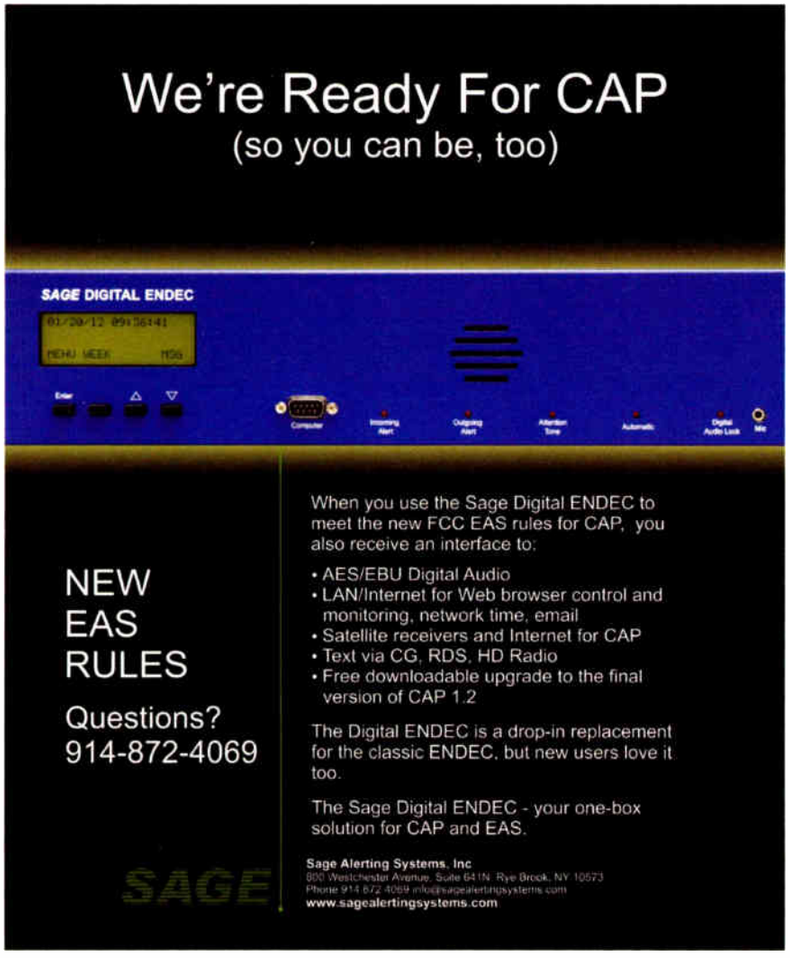


Images courtesy NPR Labs

The new NPR Labs interactive online mapping system displays projected FM analog receiver coverage for KGLT(FM), Bozeman, Mont. Mobile is red, indoor is green and portable is yellow.



The mapping system displays projected FM HD Radio receiver coverage for KGLT. Mobile is light purple, indoor is purple.



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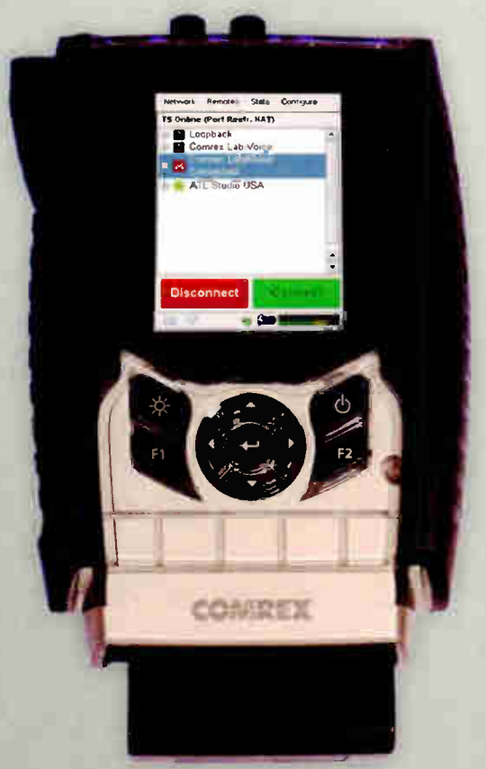

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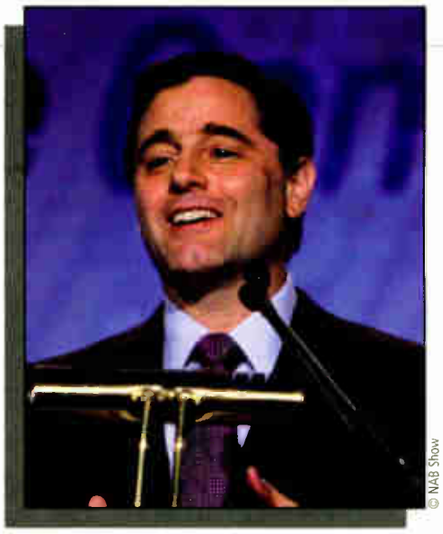
NAB SHOW IN PHOTOS

FCC Chairman Julius Genachowski supports a requirement that stations post certain public inspection files online in a central database. Broadcasters who resist this idea have "elected to position themselves against technology, against transparency and against journalism," he said at the show. The chairman also encouraged TV broadcasters to keep an open mind about spectrum auctions.



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All photos by Jim Peck unless otherwise noted

Michael Tucker, left, chats with Dale De La Pointe of Arrakis Systems.

Photo by Kovacs/Dawley

Erica Farber assumed her new post as president/CEO of the Radio Advertising Bureau on opening day of the convention. She was promoted to replace Jeff Haley, who went to Marketron.

Johnny Ha, sales manager of Metrecast, and Chuck Alexander, Harris Intraplex, discuss the new IP Link 100. Among its features are redundant streams over IP, with different coding algorithms on each if desired.

Glynn Walden of CBS Radio and Kurt Gorman of Phasetek Inc. discuss the art and practice of AM ATUs.

NAB Chief Technology Officer Kevin Gage challenged engineers to gaze beyond the traditional broadcast horizon, to 'look closely at the landscape and seek out technology to foster a vision of connecting more closely with consumers.'

John Davis of Logitek makes his pitch.

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8.3
Release Offset
5.6
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-4.0 dB
3 kHz
7.5 kHz
11

Harris Will Sell Its Radio/TV Business

Long-Time Broadcast Manufacturer Finds Business No Longer a Good Fit

MELBOURNE, FLA. — Harris will sell off its broadcast communications division. The move pulls Harris out of a business with which it has long been associated and further shakes up the competitive terrain among manufacturers of high-profile broadcast components. Harris makes radio and TV equipment including transmitters, consoles, STL equipment and other systems.

Peter Conlon, president of competitor Nautel Ltd., told Radio World in an e-mail that the decision "starkly illustrates how challenging the transmitter business has become."

Parent company Harris Corp. announced that it would divest the broadcast communications segment because that business no longer aligns with the company's long-term strategy, according to Harris Corp. President/CEO William Brown.

He said proceeds would be returned as cash to shareholders and reinvested in its core communications businesses, which consist of large government contracts that have predictable revenue models.

In its fiscal third quarter, Harris Corp. took a non-cash after-tax charge of $407 million to write down "a significant portion of the goodwill and other long-lived assets in Broadcast Communications" resulting in the loss from its continuing operations.

'COMPETITIVE FLEXIBILITY'

Broadcast Communications Division President Harris Morris said in a statement that he supports the decision. "Operating independently or as part of a broadcast or media-focused enterprise will provide us with strategic investment, increased competitive flexibility and customer focus to lead the continuing transformation in this competitive marketplace."

The decision "in no way" reflects the quality of the work performed by the division, Morris wrote. "Harris simply determined that Broadcast Communications could provide higher value and operate more effectively under a different ownership model."

Marketing Director Terri Black said the change had been brewing for awhile. When Brown came aboard and examined the company's portfolio strategically, Black said, "It didn't make sense to continue with broadcast as part of the corporation."

Unclear in early May was exactly which assets were for sale and whether the company would seek to sell its intellectual property, parts inventory, manufacturing plants and other operations separately or together. Among its assets is the Quincy, Ill., manufacturing operation. According to the Quincy Journal some 300 people are employed there.

"We're looking for someone who can partner with us and strategically align with broadcast and new media environments," Black said. "Someone who can help us progress our strategic objective of transforming the industry." Harris hopes to find a buyer by June.

A team within the division will be working with investment bankers in the process, according to Black. "We don't have any idea nor could we disclose from a competitive standpoint who we're looking to invest in us."

Black said the decision had been difficult due to Harris' longstanding involvement in broadcast and the fact that many employees and board members have been with the company for many years.

The process should be unseen to customers, according to Dimension PR's Brian Galante, who handles media relations for Harris in North America, Central America and Latin America. He said the impact on clients and employees in broadcast communications will be

(continued on page 17)

Harris simply determined that Broadcast Communications could provide higher value and operate more effectively under a different ownership model.

– Harris Morris

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TRANSLATORS

(continued from page 1)

how to sort its backlog of translator apps yet leave spectrum in some 150 markets to license more low-power FMs. Communications attorneys believe that, based on the commission's initial processing guidelines, only about 1,000 of the pending FM translators would be granted.

Comments filed with the FCC shed light on the competing interests involved.

QUALIFYING CRITERIA?

When the commission made proposals last summer regarding translators and LPFMs, it said it wanted to encourage more AMs to retransmit signals to improve the AM service. That's when it proposed lifting the 2009 restriction and asked for public input about its LPFM and FM translator proceedings.

Most commenters to Dockets 07-172 and 99-25 had favored lifting the date restriction. They cited public service benefits that FM translators provide AMs. Some felt that the restriction was unnecessary now that the commission plans to open an LPFM window later this year.

The few who opposed the change argued for a restriction on cross-service translators in general.

Some LPFM proponents sought qualifying criteria for cross-service translators, like local ownership, lack of in-market FM ownership by the AM licensee and quality of AM signal.

The commission declined to take up many of these arguments, saying the record supports the change. It did leave the door open to modifying the cross-service translator portion of its policies; it intends to revise its FM translator rules before opening the next translator auction application window.

NPR had urged the agency to keep the date restriction until the commission adopts anti-trafficking policies so that traffickers in the pool of Auction 83 FM translator applicants would not benefit from the change. The commission, to date, has not acted on that suggestion.

What follows are excerpts of the most pertinent comments explaining the essence of the issue.

EXPAND FM TRANSLATORS AVAILABLE TO AMS

Jane Mago, executive vice president, general counsel, headed the list of several executives who contributed to comments filed by the National Association of Broadcasters:

Experience since the rule change took effect ... demonstrates that permitting AM stations to use FM translators has been a resounding success for communities across America. ...

In July 2010, WHCU(AM), Ithaca, N.Y., received authorization to rebroadcast its signal on FM translator W240CB, broadcasting on 95.9 MHz. The translator has improved WHCU's service by enabling it to better reach parts of Tomkins and Tioga Counties, and for the first time, penetrate the dormitory and office buildings on the campuses of Cornell University and Ithaca College.

Eliminating the date restriction on AM stations' use of FM translators will not reduce potential opportunities for future LPFM stations.

– NAB

The translator has also allowed WHCU to cover Cornell football, hockey and lacrosse games that take place at night to an audience that previously could not listen because of the station's restricted nighttime power. Importantly, the station has witnessed a surge in audience diversity to include more students and other young people tuning into its local news, weather and other coverage.

WTRN(AM), Tyrone, Pa., has also improved its local public service through the use of an FM translator. WTRN is located in a commuter community, with thousands of residents heading out early in the morning for work in State College and other locations. Before WTRN deployed an FM translator, its morning signal would be overcome by interference after about five miles from the station's transmitter. With the translator, many listeners can now enjoy WTRN all the way to work. ...

Other AM stations report that FM translators enable them to initiate or expand live coverage of high school and college sports, local election returns, nighttime weather emergencies and Emergency Alert System alerts, new formats, morning school closing announcements, church events and other public affairs programming. ...

To date, use of FM translators has helped many AM stations improve their service, retain or even build their audiences in the face of intense competition from competing media outlets, and thus improve their economic viability. However, a substantial number of AM stations have been unable to benefit because pre-2009 translators are unavailable in their markets. ...

Eliminating the date restriction on AM stations' use of FM translators will not reduce potential opportunities for future LPFM stations. Rather, lifting the date restriction will merely permit AM stations as well as FM stations to use translators from the same pool of pending applications to be granted under the ultimate process the commission adopts.

James M. Johnson, trustee for Glades Media Company, writes:

Glades' AM station WOKC, Okeechobee, Fla., is rebroadcast over the facilities of an FM translator station. This arrangement has greatly contributed to the station's ability to serve Okeechobee.

It has bolstered the financial viability of WOKC and materially contributed to the continued availability of a local radio service in Okeechobee. As a full-service radio station WOKC programs to meet the needs of its service area and is available to meet emergency needs in a rural area subject to severe weather.

Stuart W. Nolan Jr. is the attorney for Catholic Radio Association:

Any proposal to limit the use of FM translators to rebroadcast AM signals would undermine a tremendous tool for reinvigorating AM stations and facilitating the long-term economic vitality of the AM radio service. This tool should not be curtailed as a cost of invigorating the LPFM service.

DATE RESTRICTION HAS SERVED ITS PURPOSE

Broadcast engineer and RW contributor Alan Jurison writes as an individual.

I believe that AM stations should be allowed to use any translator that has been licensed. The May 1, 2009 date would be too limiting for AM stations to be able to compete and obtain any newly granted FM translators. ... The rule served its purpose to help launch the cross-service translator process, but its usefulness will

(continued on page 14)

NEWSROUNDUP

TV ONLINE FILES: The FCC will require TV stations to move public files online. Observers expect radio to be affected eventually. The initial change only applies to television affiliates of four major networks in the top 50 markets. Other stations will follow in two years. The issue is controversial because of a requirement that portions of a station's political file, which are part of the public file, go online as well. Broadcasters objected, saying they would be placed at a disadvantage if sensitive real-time political campaign ad information goes online.

NONCOM FUNDRAISING: The FCC proposed easing a ban that prevents noncom stations from conducting third-party fundraising. Currently noncoms can fundraise only for their own stations; raising money for third parties is prohibited if it means on-air pitches would change or suspend regular programming drastically. The agency has proposed allowing pubcasters to spend up to 1 percent of total air-time — about 88 hours a year — to conduct on-air fundraising activities for charities and other nonprofits. It asks for comments to MB Docket 12-43.

FM BOOSTERS: The FCC invited comments on a proposal by Geo Broadcasting Solutions to use FM boosters as program originators separate from main channel operation. The agency has not opened a NPRM on the topic. In its petition for rulemaking, Geo Broadcasting says it holds patents on technology that would enable the booster to avoid causing interference both to the main channel and to other boosters; the technology also allows licensees to insert different, hyper-local programming on each booster. Comments on RM 11659 are due May 23.

LIVIO CONNECT: Livio Radio launched a website for app developers and hardware manufacturers, *livioconnect.com*. Livio launched the connect protocol last year; it's a liaison between various apps and devices. Users can control apps via hardware buttons or voice control in car radios, TVs and home audio systems. It's added to third-party apps, allowing them to communicate with enabled devices. Founder/CEO Jake Sigal told Radio World at the R.A.I.N. Conference that the protocol "allows app developers to get into the dash but keep their brands." Broadcast streamers and personalized Internet audio services are jockeying for position as automakers move from hardware changes and focus on in-dash infotainment screens with apps that can be swapped in and out. Brands that make it into those systems early will have an edge.

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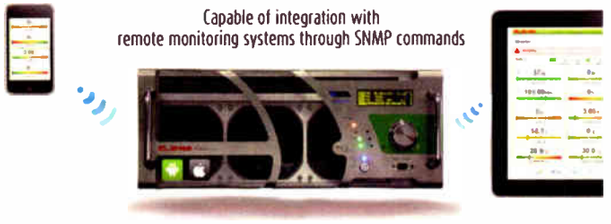

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TRANSLATORS

(continued from page 12)

have expired when this rulemaking is complete.

KEEP DATE LIMIT UNTIL ANTI-TRAFFICKING POLICIES BEEFED UP

NPR urged the agency to keep the date restriction in place until the commission adopts anti-trafficking policies so that traffickers in the current pool of Auction 83 applicants will not benefit from the change. Several executives contributed to this filing; Terri Minatra, acting vice president for legal affairs, general counsel and secretary, topped the list:

The initial comments in this proceeding validate the commission's assessment that many of the applications filed during the 2003 FM translator filing window were not filed with the intention of constructing and operating the station. There is also recognition that, because of the substantial passage of time, many still pending applications may no longer be viable. ...

Nothing in the commission's rules sanctions the filing of an application for a broadcast station construction permit for the purpose of assigning the permit to another for profit. ...

While the commission did, in fact, eliminate the rule barring the sale of construction permits for profit, it did so not to permit the warehousing of spectrum but because it believed that competitive bidding procedures would deter speculative filings. As the Third Further NPRM now concedes, that assumption "has proven to be unfounded in the Auction No. 83 context."

There is simply no justification for rewarding entities that engaged in speculation by treating all pending FM translator station applications alike. ...

Identifying the currently viable, bona fide FM translator applications will enable the commission and the remaining applicants to pursue engineering solutions resulting in the licensing of more FM translators without necessarily obstructing future LPFM opportunities. It will also preserve spectrum for future FM translator station use.

REDUCE AM TRANSLATOR POWER BEFORE EXPANDING CROSS-SERVICE

Michelle (Michi) Eyre, founder of REC Networks, writes:

We have ... heard from minority owners that AM cross-service is necessary using case histories involving their own cross-service translators. REC continues to believe that once trafficking and integrity safeguards are placed in the FM translator service that AM stations that do not have a cross-owned FM station in the same market should be permitted to use FM translators for retransmission. ...

We are also deeply concerned about the abuse that the commission has created with the cross-service AM translator rules. While we support minority-owned AM stations with no other FM radio holdings being able to put their signals on an urban FM translator, this has been abused by [broadcasters] who exploit the fill-in rule to increase the power to 250 watts regardless of antenna height.

NEED QUALIFYING CRITERIA FOR CROSS-SERVICE TRANSLATORS

Todd Urick, technical director for Common Frequency, tells the agency:

The ... rebroadcast of AM stations on translators has basically created a brand-new price-inflated market for translators, and a fierce competition for secondary service channels with prospective LPFM applicants. CFI understands in certain circumstances [there's a] need for FM translator supplementation by AM licensees.

More selective qualifying criteria for AM licenses need to be derived before removing the limit on cross-service translators.

– Common Frequency

However, there is limited capacity on the FM band for AM stations that want to supplement their AM signal. More selective qualifying criteria for AM licenses need to be derived before removing the limit on cross-service translators as asked.

Qualifying criteria such as local ownership, diversity of ownership, amount of locally-originated programming and amount of signal deterioration at nighttime compared to daytime service area should be mulled over to craft selectivity points. Additionally, licensees that do not currently own FM channels in the market seem better candidates than those who do.

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When Your Client Files for Bankruptcy

Contract Engineers in Particular Are Vulnerable to Radio's Money Woes

BY RANDY J. STINE

Contract broadcast engineers have no foolproof way to protect themselves against bankrupt clients. In fact, the bankruptcy code leans the opposite way, providing protection to a bankrupt party.

The promising news for contract engineers — at least based on anecdotal evidence and opinions of industry observers — is that the economy is improving and the number of broadcast bankruptcies has slowed. (BIA and NAB said they typically don't track radio group bankruptcies.)

Yet the recent recession serves as a reminder that broadcast engineers, especially contractors, should take steps to limit risks and complications brought on by reorganization filings.

The legal layers of a bankruptcy filing in the United States are complicated. Even if your client pays you before declaring bankruptcy, the money may not be safe; a court-appointed bankruptcy trustee can seek a refund of certain payments from creditors.

Chris Imlay, general counsel of the Society of Broadcast Engineers, has delivered presentations about the effect of bankruptcy and reorganization of broadcast facilities on engineers.

He says most broadcast bankruptcies are Chapter 11, a reorganization process. The more dramatic Chapter 7 filing calls for liquidation of all assets.

The trustee has a lot of incentive to keep the engineer working and honoring the contract.

– Chris Imlay, SBE

"Almost nothing a contract engineer puts in a contract can protect them in a Chapter 11 filing," Imlay said. "A contract engineer will be lumped in with all of the unsecured creditors, who are behind all of the secured creditors and the IRS."

However, he continued, most broadcaster reorganizations are successful in the long run. "That is simply because the value of a broadcast license typically negates the need for liquidation."

PENNIES ON THE DOLLAR

Unsecured debts may be paid out at only pennies on the dollar, said Raymond Quianzon, an attorney specializing in bankruptcy at communications law firm Fletcher Heald and Hildreth.

"An engineering firm or contract engineer may want to secure a debt that it is owed by filing a financing statement, attachment or lien in the appropriate state or county location — although the bankruptcy court usually will still treat a secured debt with a higher priority than any unsecured debt," he said.

Imlay noted that the FCC still holds stations responsible for complying with technical rules. Therefore, the value of a broadcast engineer may actually increase during bankruptcy.

"It's beneficial to be as helpful as possible during the reorganization process," he advises engineers. "The trustee is going to need the services of the engineers during the reorganization process. Then the engineer will be paid by the trustee for work done during the reorganization. The trustee has a lot of incentive to keep the engineer working and honoring the contract."

If the bankruptcy grim reaper does strike a broadcast engineer's client, and assuming there is an outstanding debt, Imlay suggests that the contract engineer have a claim in the bankruptcy filing.

"Contact the trustee and see if there is a chance to continue work during the reorganization. Not many trustees or receivers are going to be technically inclined. They will likely need your expertise."

Further, the warning signs of financial doom often are visible earlier to a broadcast engineer than to other station personnel. A trail of unpaid vendors is a telltale sign of financial problems, according to observers who spoke to RW for this article.

World Radio History

All the more reason a contract engineer should never make advance payment for hardware or subcontracting services on behalf of a client.

"Everything should be done in the name of the licensee, and especially during the reorganization period. You really shouldn't count on any reimbursement at that point," Imlay advised.

CRITICAL VENDORS

The best protection a contract engineer can have is a written and enforceable contract with a client station, said Jeffrey Tarkenton, a bankruptcy specialist with Womble, Carlyle, Sandridge & Rice.

"That way an engineer can also avoid the risk they may have to repay any payments received within 90 days of bankruptcy which constitute preferential payments," he said.

Once the bankruptcy case has been filed, the engineer typically will have little if any leverage on outstanding invoices unless the engineer is a "critical vendor," Tarkenton said.

"Critical vendors are creditors who are determined to be so vital to the debtor company that the creditor's refusal to perform could imperil the debtor company's operations or reorganization."

The engineer should always file a "proof of claim" with the court for unpaid sums, Tarkenton said. A proof of claim is a form issued by the bankruptcy court.

There are strict deadlines for filing the claims, and claims that are not "timely filed" will be disallowed, according to Tarkenton. Although creditors usually receive little or nothing in the way of distributions in a bankruptcy case, there are cases in which creditors who file proofs of claim receive full payment, plus interest.

A staff engineer is in a much better position than a contract engineer during a bankruptcy filing, Imlay said, since seldom is a broadcast engineer considered an excess cost in a broadcasting operation, though of course any employee is affected when a company undergoes financial turmoil.

"You'll be paid like everyone else. Problems only could arise if the trustee believes it is cheaper to hire a contract engineer, but usually other types of staff are impacted first by layoffs. The problem for a staff engineer is if the reorganization plan should fail."

All sources contacted for this story recommended that a broadcast engineer consult a bankruptcy lawyer in the event of a client or employer bankruptcy.

Imlay said sample contracts for engineers are available to SBE members online at *www.sbe.org*.

Comment on this or any story. Email radioworld@nbmedia.com, *attention Letter to the Editor.*

HARRIS

(continued from page 10)

"absolutely none. It will be business as usual."

"There will be no changes in operations, employee status, executive and management levels," he said, adding that the broadcast segment remains part of Harris Corp. until the assets are sold.

Harris' involvement in broadcast dates to the purchase in 1957 of Gates Radio by Harris Intertype Corp., according to the company's website. Gates had been founded in 1922 in the earliest days of commercial radio; it was the first electronics firm acquired by what would become Harris Corp.

The company entered the TV transmitter market in 1969. It later acquired Allied Broadcast Equipment Corp., Intraplex and Pacific Research & Engineering (PR&E), an iconic name in consoles. Subsequent acquisitions also included TVT, ITIS, Louth Automation, Hirschmann Multimedia Communications Network, Question d'Image, Encoda Systems, Leitch Technology Corp., Aastra Digital Video, Optimal Solutions Inc., Zandar Technologies and part of Midwest Communications Corp.

Harris sold off the former Allied distributor business five years ago, and in 2011 it realigned its structure so that broadcast became part of an entity called Integrated Network Solutions.

— Paul McLane and Alexis Hauk

World Radio History

Color Code UPS to Simplify Troubleshooting

Also: How to Hold Onto Those Little Plastic Wire Jumpers on Circuit Boards

Broadcast engineer Paul Sagi writes from Kuala Lumpur about a simple way to hold onto those little plastic wire jumpers found on circuit boards.

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

These jumpers usually permit two of three in-line pins to be shorted for various functions. The problem arises when the jumpers are not needed immediately. They are so small that they will get lost in a tool bag or parts drawer.

Because you may need your jumpers someday, park 'em. Place each jumper on one of the end pins of the in-line strip, so it contacts just that one pin. This way, the jumper can be found when you need it, yet it's making no connection.

Paul has done just this with the circuit pictured in Fig. 1. Look at J-1, labeled OP/CL – HWS, right under the fourth blue potentiometer at the top of the board. Great idea, Paul.

Reach Paul Sagi at *pksagi92@gmail.com*.

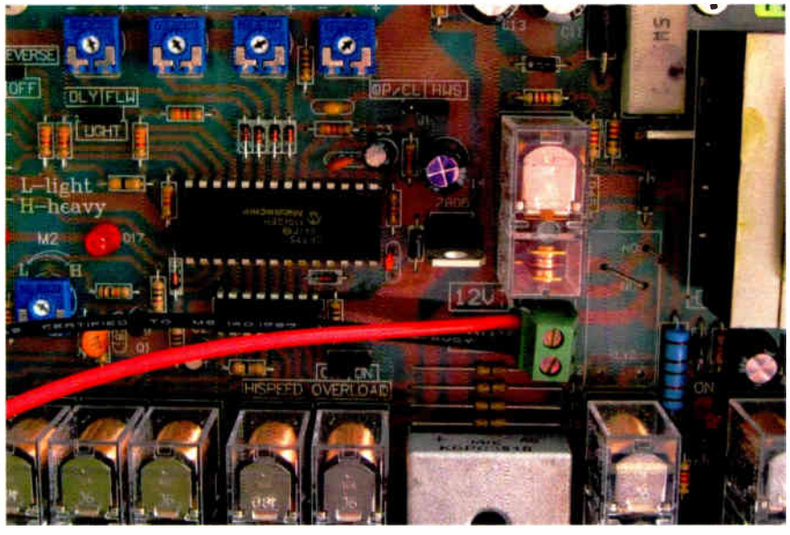

Fig. 1: Store unused plastic contact jumpers by parking them on unused pins.

Do more for less

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✓ No rewiring required

Paul Shulins, Greater Media Boston's director of technical operations, uses two uninterruptible power supplies in each of his transmitter site equipment racks. The supplies power separate AC strips found on each side (left and right) inside the rack.

Paul has labeled the two uninterruptible supplies "red" and "green." Simple enough, but here's a slick idea, seen in Fig. 2. He uses twist-lock plugs to feed the input and output of each UPS. The disconnect/bypass panel, shown in Fig. 3, also is color-coded for easy identification.

Contact Paul Shulins at *pshulins@greatermediaboston.com*.

Stephen Lockwood of Seattle consulting firm Hatfield & Dawson has worked with the Society of Broadcast Engineers to set up the SBE RF Safety course, which is the topic of a webinar on May 24. It is aimed at radio and television engineers as well as ENG and SNG maintenance personnel.

RF safety expert Richard Strickland, whom readers may remember from his days at the test instrumentation firm Narda, will present the webinar. Strickland founded RF Safety Solutions in 2001 and has authored numerous RF safety-related articles in Radio World.

For links to the course and to past RF safety stories, visit *http://radioworld.com/May-09-2012*. Stephen Lockwood can be reached at *lockwood@hatdaw.com*.

Mike Fast, retired director of engineering at WCBM(AM), brought to my attention a new book on the history of Bell Labs by Jon Gertner.

"The Idea Factory: Bell Labs and the Great Age of American Innovation" tells a fascinating story about the organization during its heyday from the 1920s to the 1980s. In its time, Bell Labs was the most productive scientific laboratory in the world, winning seven Nobel Prizes, Gertner writes.

Mike Fast does project work and can be reached at *mfast35302@aol.com*. Thanks, Mike, for the review.

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

Author John Bisset has spent 43 years in the broadcasting industry and is still learning. He is SBE certified and is a past recipient of the SBE's Educator of the Year Award. He recently joined the FM transmitter company Elenos USA.

Fig. 2: Paul Shulins color codes the plugs for dual-UPS applications.

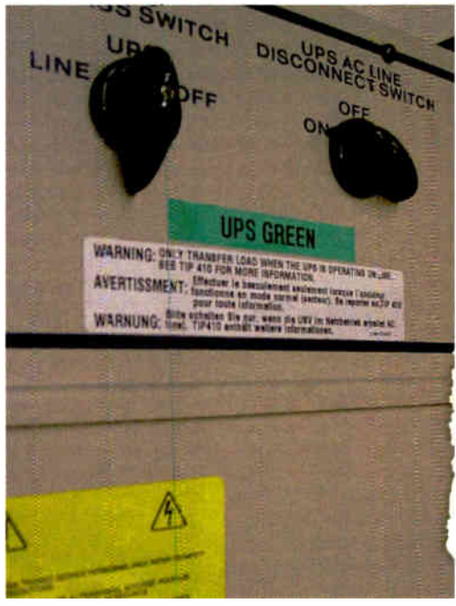

Fig. 3: Use the same color coding for the disconnect/bypass panel.

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World Radio History

NAB SHOW IN PHOTOS

All photos by Jim Peck unless otherwise noted

Jerry Lee, right, owner and president of WBEB(FM) in Philadelphia, learns about HD Radio developments from Chris Stiles of Emmis Interactive.

The wall of automotive HD Radio receivers in the iBiquity Digital booth. The company promoted the growing complexity of the HD Radio 'ecosystem' with features that include visual elements, tagging and interactive ads. As of the show, 27 car brands offered HD Radio as standard or easy-add factory options.

At a press conference announcing FM HD prototypes in smartphones. Bruce Reese of Hubbard Radio; Jeff Smulyan of Emmis Communications; Robert Struble and Jeff Jury of iBiquity.

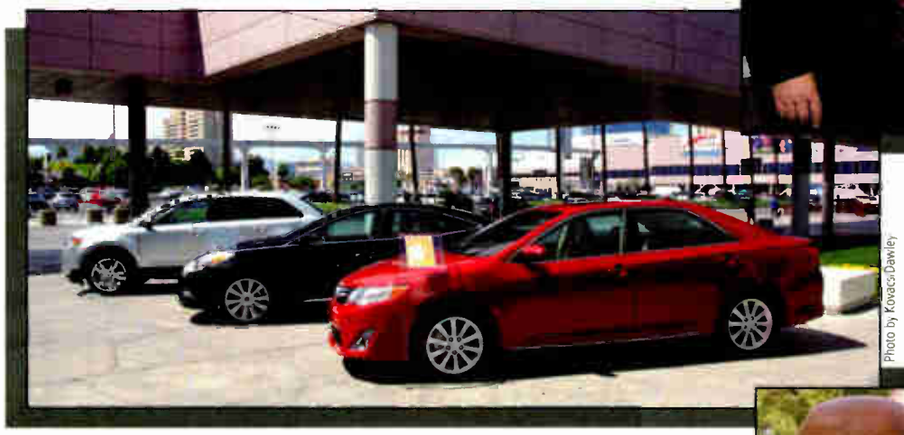

Photo by Kovacs/Dawley

HD Radio equipped cars line the walk to the registration hall.

Observers, movers and shakers in the EAS field. The deadline is (probably) finalized. Is your station ready for CAP? Gary Timm of A.W.A.R.E.; Robert Reymont of Double R Consulting; Al Kenyon of FEMA; Richard Rudman of the EAS Forum and Broadcast Warning Working Group, also California EAS SECC Vice Chair

Talking about factory-equipped HD Radio in vehicles are Jim Watkins of WHUR(FM) and Roy Sampson and Rick Greenhut of iBiquity Digital.

More on page 28

World Radio History

ROC YOUR WORLD

The new ROC console from Logitek

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

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

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

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

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Apps: The Way of the Future for LPFM?

Some Musings About Letting The 'Crowd' Control Things

BY ALEXIS HAUK

A recent article by Eliot Van Buskirk in the publication Evolver.fm raised an interesting suggestion: Should low-power FM stations consider building audience by letting listeners control what they hear through community music sharing applications like Jelli or Roqbot?

LOW-POWERFM

Potentially we've got lots of new community stations on the way: The Federal Communications Commission plans to invite more license applications in accordance with the Local Community Radio Act, signed by President Obama last year.

Van Buskirk writes that he hopes this new wave of applicants will lead to "a flowering of weird and wacky local radio stations to deliver music and news to micro-communities across the country."

Officially, LPFMs currently operate at 100 watts or less, giving them a maximum broadcast radius of only a few miles. According to Van Buskirk, this means that originality and variety will be key to attracting young, music-savvy listeners to these low-budget enterprises. He also believes that a decline of college radio stations may leave the market wide open.

INTRIGUING

So what would it look like if LPFMs started using an app via Web, mobile or social networking to allow listener control?

It's a hypothetical that intrigues Michael Dougherty, CEO of Jelli, which was founded through a collaboration of Microsoft, Amazon and Yahoo! and uses a robot DJ called "T-Bone" to help listeners rally for the next song.

"We just love the idea of community radio," he told Radio World. "It helped shape our original vision at Jelli of harnessing that passion with our user-controlled radio platform ... allowing smaller communities shaped around longer-tail radio formats would be amazing."

Others are more skeptical, for instance John Broomall, who with his wife Henri operates Grace Radio 1037, WPCG(LP), from their home in Canton, Ga.

Founder of Christian Community Broadcasters, an LPFM advocacy and consulting organization, Broomall has also been the underwriting manager for an NCE TV station, WATC(DT) in Atlanta, for 16 years.

One incongruent aspect of Jelli for Broomall is the game-like format of the program, about which James Careless wrote for Radio World in December: Users "can push (song) choices to the top of the list by using one of the 'rockets' they received daily, or kill someone else's choice by dropping a 'bomb' on it."

Broomall expressed his reservations about this gladiatorial DJ style in an email to Dougherty: "More than half of all LPFMs are operated by Christian organizations. I don't see Jelli being used to say that 'The Old Rugged Cross' 'rocks' while 'Amazing Grace' 'sucks.'"

Forty-two percent of Jelli's total base is pop music, but Dougherty says he sees the potential for LPFM stations to expand listeners' musical horizons. "I am sure many under-served formats would work with LPFM," he said. "Indie rock, punk rock, bluegrass, electronic music, jazz, heavy metal, etc."

On the plus side for LPFMs, the setup and operating costs of using a program like Jelli are minimal. The company merely requires "a basic Linux server and broadcast card, and a persistent connection between the Internet (cloud) and the server," Dougherty says. And it's free for listeners.

This would come in handy for a station like Broomall's, which voice tracks local news and weather and doesn't even have a microphone on site.

On the minus (and it's a big minus): Jelli's current business model is centered on advertising. Dougherty acknowledges his company would have to develop a "new model for non-profit partners" before it could proceed with LPFM.

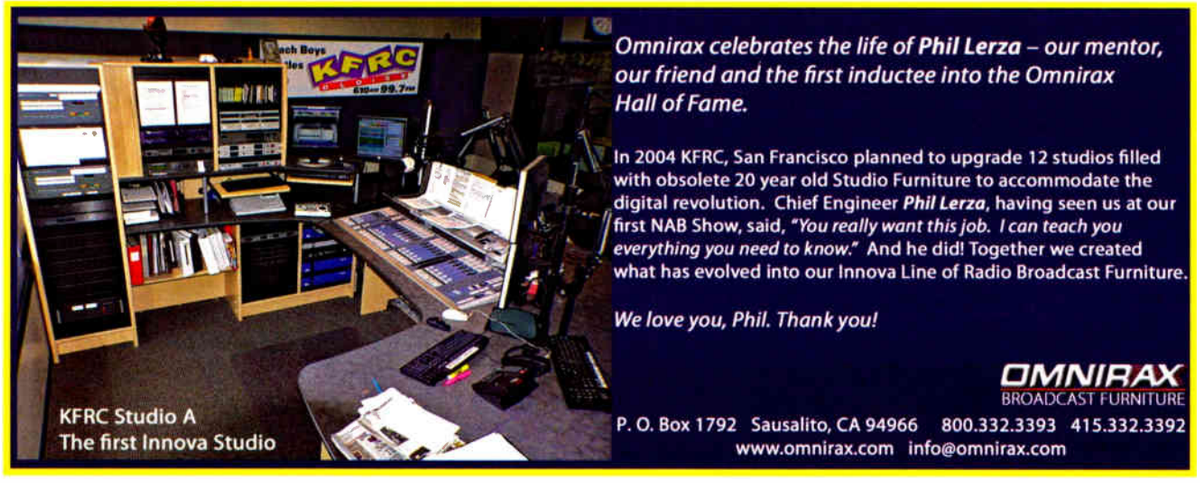
Still, the potential for partnership is there — hypothetically.

And let's not forget about Roqbot, a social music app that won the SXSW accelerator contest last year. It lets patrons of a bar or restaurant crowd source the music selection via their smartphones (choosing from a pool of "approved" songs).

"I'm very open to creative models," says Broomall. "It's just you have to be really, really creative to make a model that works for a non-commercial station."

Alexis Hauk is associate editor of Radio World.

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



PEOPLENEWS

The **Canadian Amateur Radio Hall of Fame** recently inducted Communications Research Centre Canada emeritus researcher **Dr. John "Jack" Belrose**, in recognition of his long and distinguished career as a radio pioneer in Canada.

Euridice Ventura

The **Spanish Broadcasting System** named **Euridice Ventura** as its new vice president for affiliate marketing for consolidated operations. She will also act as liaison between **SBS Radio**, **MegaTV**, **SBS Interactive** and **SBS Entertainment** divisions.

Former director and chairman of consultancy at Media Asset Capital, **Michael McEwen**, was named director general of the **North American Broadcasters Association**. McEwen is also chair of the **Global Broadcast Summit**, which will take place in London later this year.

Jon Phillips took over as market manager for **Clear Channel Media and Entertainment Tulsa**.

Dick Ervasti

On-air talents **Dick Ervasti** and **Charles Thomas** are new additions to **Premiere Networks'** nationally syndicated overnight show, "**Coast to Coast AM**," replacing long-time announcer **Ross Mitchell**, who left to pursue other opportunities.

Charles Thomas

Thomson Broadcast appointed **Perry Priestley** as vice president of sales and marketing for North America. Most recently, he worked for **Linear Industries** as vice president of sales.

Tim McAleer started as president and market manager for **Clear Channel Pittsburgh**, moving internally from his position as director of sales and marketing.

WORKBENCH
by John Bisset

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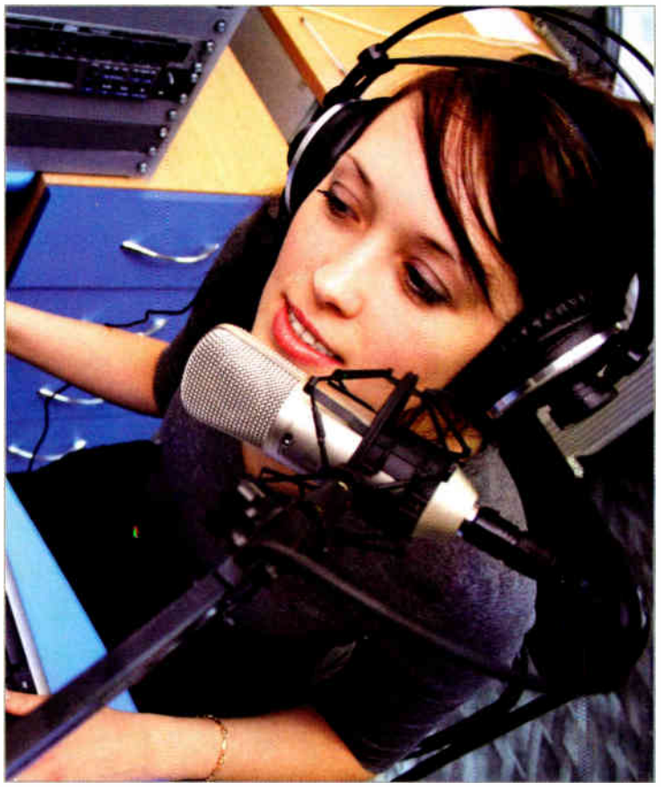

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World Radio History

Where Have All the Engineers Gone?

I Worry About the Occupation That Has Kept Me on My Toes for 33 Years

BY MARK PERSONS

In 1960, Pete Seeger sang the lyrics, "Where have all the flowers gone? Long time passing ..." That song is running through my head now, but with a different question: "Where have all the engineers gone?"

TECHTIPS

I got into this business more than three decades ago. During my career, I witnessed the transition from full-time human engineers based at radio stations to the "plug and play" era of today.

Radio broadcast engineering can be a tough business. You're generally expected to be on call 24 hours a day, 7 days a week, over the course of your entire career. Working day and night with my wife, Paula, often meant cancelling family gatherings in favor of getting a transmitter running again. But it's also a satisfying and challenging occupation, which kept me on my toes for 33 years.

BEYOND SOLDER

I now work in the shop fixing equipment that stations send me, enjoying the lack of calls about repairs at 3 a.m. But now that I play a different role in the engineering world, I wonder what happened to all the new engineers out there, the ones who should take my place. Why are there so few?

iStockphoto/Dmitri Bruskov

Who will pick up the tools of the trade?

Unfortunately, the industry (including myself) has not done a good job of attracting and training young blood in the radio engineering profession — though the Society of Broadcast Engineers is trying, commendably.

We are in an unusual business where equipment is manufactured in relatively small numbers, so the cost is high and gear usually doesn't fall into the "throwaway" category. When a $70,000 transmitter goes down, there is not always factory tech support to point the way.

Any young engineer must possess electronics training so he or she can understand what a circuit is supposed to do and how to troubleshoot it down to the component level when it is not working right. More and more these days, I've observed a lack of such training from technical schools — perhaps because many college-educated engineers are focused on designing equipment now.

Recently I was at a cell site that is co-located with an FM broadcast transmitter. I was having trouble with my soldering iron and asked a cell repairman to loan me his iron, but he told me, "We don't have soldering irons because none of our work requires soldering."

Wow, was I surprised. I wear out soldering irons because they get so much use on the job.

It is true that radio studios are moving over to IP audio, which falls more into the domain of IT people, but transmitters and antennas still need broadcast engineers to install and maintain.

I have been getting calls from IT people who are struggling with transmitters that are beyond their level of education or understanding.

Today's engineers need to do both IT and maintenance or the station must have two people to fill those roles.

I have been getting calls from IT people who are struggling with transmitters that are beyond their level of education or understanding. Those people often do not have the Ohm's Law basic knowledge to help them think through component level troubleshooting problems. Any upcoming radio broadcast engineer needs to recognize this and train accordingly to be equipped mentally to deal with this when it occurs.

We older engineers need to help by mentoring the young ones to bring up their level of expertise in electronic problem solving. It is the right thing to do.

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

Mark Persons has 33 years' experience as a professional broadcast engineer. His website is www.mwpersons.com.

GR
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The CAP-DEC1, Gorman-Redlich is a standalone CAP-to-EAS converter for use with your existing emergency alerting equipment. This cost-effective device allows broadcasters to easily meet Common Alerting Protocol (CAP) compliance requirements mandated by the FCC without requiring the purchase of an additional encoder/decoder system or other costly equipment. The CAP-DEC1 is CAP 1.2 compliant and requires only one unit of rack space. Trust the experts with over 35+ years experience in the emergency alerting industry to help you meet your broadcasting needs. Visit our website or contact us today for more information about the Gorman-Redlich CAP-DEC1. We continue to support equipment we made 35 years ago.

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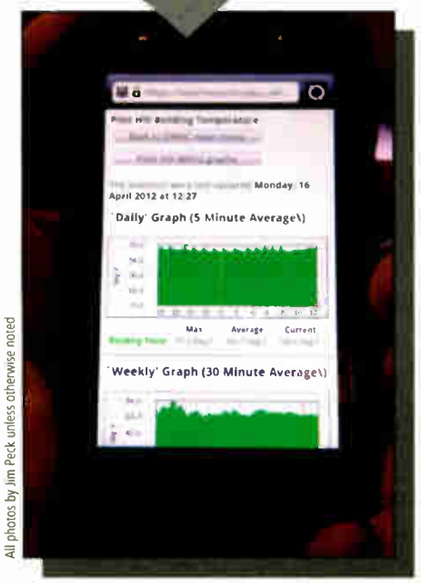
World Radio History

NAB SHOW IN PHOTOS

All photos by Jim Peck unless otherwise noted



Shane and Andrea Toven of Smiling Dog Systems demonstrated the 'Distributed Monitoring and Control' cross-equipment platform remote control and monitoring package, useable from mobile or desktop computing devices.

From left: Caroline Beasley, Beasley Broadcast Group; FCC Commissioners Mignon Clyburn and Robert McDowell; Marci Burdick, Schurz Communications. McDowell said the commission has no business singling out broadcasters for political ad disclosure.

© NAB Show

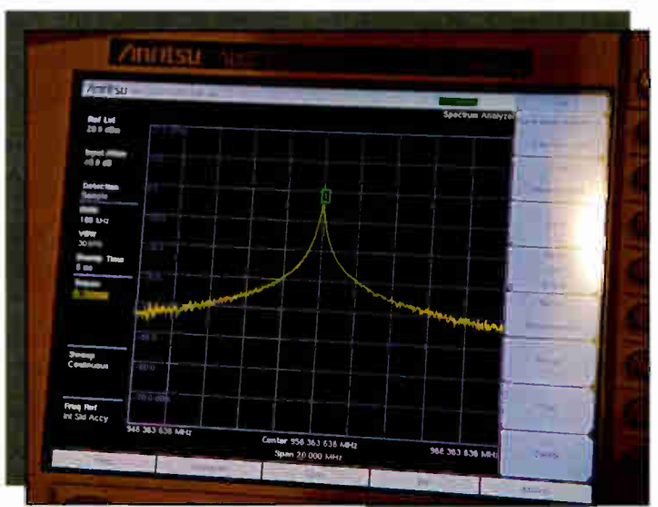
Chase Castoro and Darren Sigur try out Op-X automation at the Broadcast Software International booth.

Jeff Holdenrid of Double Radius talks nontraditional STLs with Anthony Gervasi and Chris Verdi of Nassau Broadcasting Partners.

The RoboBoom, seen in the booth of Broadcasters General Store with creator Brian Clark, is an interactive microphone arm. Using robotic motors and facial recognition, it automatically positions the mic at an optimal distance from the talent.

Photo by Kovacs Dawley

Betty White made even more fans at the show, if that's possible. Here she discusses her long TV career with NAB's Gordon Smith.



Anritsu's MS2721B Spectrum Analyzer was one of the hundreds of troubleshooting and measurement tools available to radio engineers at the show.

More on page 40

World Radio History

Precision mixing.

Right on the money.

OnAir 1500

DIGITAL MIXING CONSOLE

An endlessly versatile solution for radio broadcasting and production, the Studer OnAir 1500 combines an intuitive control surface with flexible I/O to deliver class-leading digital mixing at a suprisingly affordable price. Available in 6 and 12-fader systems, the OnAir 1500 features advanced Studer technology and a user interface based on years of operator experience, with clear OLED channel displays and USB playback/record and interface to DAW functionality.

NANO SCORE

Compact Flexibility

A space-saving design packed with analogue and digital I/O, the separate digital core of the OnAir 1500 contains both the audio and control engine, together with 2 option slots for standard D21m I/O cards, making additional breakout panels unnecessary.

MODULAR Expansion

The basic 6-fader surface can mix up to 12 channels. Flexibility is increased with the addition of the 6-fader extension bay to create a 12 fader surface. Those 6 faders can be placed remotely via Cat5 cable in a Producer's bay, or used as a redundant surface.

More Info

Scan with your smartphone for full details of Studer broadcast consoles

usa.studer.ch

STUDER by HARMAN

World Radio History

Maverick Chooses Inovonics 730

RDS Encoders Help Illinois Station Make Its Entry Into Datacasting

USERREPORT

BY JERRY MITCHELL
Engineering/IT
Maverick Media of Rockford

ROCKFORD, ILL. — As part of a recent transmitter upgrade, Maverick Media of Rockford decided to add RDS capability to two of our stations, WXRX(FM) and its HD2 (AM station WNTA). Though far from a new standard, the technology finally seems to be gaining some maturity and RBDS-capable receivers have gained some respectable market penetration, so the time seemed right for us to break into datacasting.

Using the maxim "if it's worth doing, it's worth doing well," we opted for Inovonics 730 RDS encoders, which appeared to offer the best package of capabilities available on the market.

IP CONNECTIVITY

Though I have no history with comparable products, my hands-on experience with these units seems to bear out our initial impression.

One useful feature of these units is that they do not rely exclusively on serial input to receive data. They will connect to a network and can be addressed by IP. This has turned out to be crucial for our installation, as the point-to-point IP connection to our transmitter site works quite well but the method we'd planned to use to establish serial communications over that link was not successful.

Each 730 unit can use three ports simultaneously, two for TCP connections and one for UDP connectionless communication, so I can use the included software to retrieve and/or change settings on either unit without interfering with its regular updates by other software, or multiple servers can send independent updates without conflict.

It's difficult to evaluate these units independently of the software that updates them, however. While the included program is excellent for modifying settings and setting static messages (including a default message to use if the data feed is interrupted) via USB or IP, it would be impossible to keep up with "now playing" information or spot-triggered sponsorship messages.

These units included a trial version of Center Stage software from Arctic Palm, which was able to do this, as well as set RadioText Plus tags for the artist and album fields, and to download, parse and send regular weather updates to one of the encoders.

We selected Broadcast Electronics' The Radio Experience program instead,

(continued on page 39)

World Radio History

TECHUPDATE

MICROGEN ANALYZERS HAVE RDS DECODING

Microgen Electronics TS9085 and TS9065, FM modulation and AF spectrum analyzers have been developed from the Radio World "Cool Stuff" Award-winning TS9000.

These new units have been designed for precision monitoring of FM radio broadcasts. Connected to a standard Windows PC, via a USB port, they display FM modulation data for analysis.

RDS decoding is available with live "off-air" data recording. Data can be logged automatically to hard disk, and remote control is possible from a simple text file, allowing the unit to be controlled from third-party software applications.

An ultralinear digital phase FM demodulator locked to a 20 ppm band-gap reference, provides an instrument that the company describes as virtually calibration-free. Measurements of deviation, modulation power, pilot level and RDS subcarrier are referenced to this. The IF amplifier is dual-band with a computer-modelled Gaussian response LC filter, equalized for low distortion and minimum overshoot.

The software-simulated DSP stereo decoder promises excellent phase matching between channels. Left and right channels are displayed in the time domain, with an additional 2D vector stereo quality display giving a visible guide to left and right channel behaviour.

The iLog software now includes NMEA GPS decoding. This automatically scans the PC for connected NMEA-compliant devices. Google Earth KML files are generated for GPS tagged field measurement. The TS9085G and TS9065G units are supplied with their own USB GPS receiver module.

The FFT spectrum analyzer has a range from 10 Hz to 100 kHz with 16-bit sampling. This achieves a 100 dB dynamic range.

With waveform averaging, this can be extended to greater than 110 dB, allowing signals below noise to be observed and measured.

The analyzer is housed in a custom-designed, robust dual-chamber aluminium extrude box, providing excellent screening. The unit is suitable for monitoring on-site or as a mobile unit allowing the broadcast engineer to make quick and accurate modulation measurements.

Audio outputs are provided for high-quality headphone monitoring.

For information, contact Microgen Electronics in England at 011-44-20-8647-8238 or visit www.microgenelectronics.com.

ABOUT BUYER'S GUIDE

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

World Radio History

Emmis Decides on Audemat FMB80

Paul Brenner Likes Manageability and Reliability of RBDS Encoder

USERREPORT

BY PAUL BRENNER
SVP/Chief Technology Officer
Emmis Communications

INDIANAPOLIS — I've long been focused on the development of broadcaster-related technology solutions by nature of my role within Emmis Communications as well as my natural curiosity. This focus led me to devise the data distribution consortium business model and become president of the Broadcaster Traffic Consortium (BTC), a partnership of 16 radio companies formed to distribute real-time traffic data via FM-RDS and HD Radio technology.

This additional role has led me to take a keen interest in the RBDS encoders used in the Emmis network of radio stations across the U.S., including St. Louis, Indianapolis, Terre Haute, Ind., and Austin, Texas. Initially, we had no focused approach to RBDS so encoders from various manufacturers were used throughout the network.

STANDARDIZATION

However, at Emmis we place a great deal of importance on standardized technology, believing that it simplifies technology deployments and interfacing with external partners as well as lowering costs and support requirements. Therefore, a number of years ago, we decided to standardize on the Audemat FMB80 RDS encoders and deploy them throughout the Emmis network. In some stations we replaced competitors' RBDS encoders while at other stations these were new installations.

In addition to a competitive price and compatibility with our external software partners, the FMB80 offers a number of features that ensured it met our technical needs, leading it to be selected over equipment from other manufacturers.

Control was a key criterion for us and the FMB80 offered remote manageability via a Web interface as well as TCP/IP connectivity enabling content interfaces and system interconnects. It also offered support for UECP and RadioText Plus, which would ensure that the platform would enable us to keep up to date with emerging technology. Finally, given Audemat's experience building RDS systems and involvement in the arena of RBDS, we felt that we were in safe hands and dealing with an established brand.

Installing the 22 FMB80s throughout our network went without a hitch. We were able easily to define a process for the technology installers and it took less than 30 days from the date of shipment to have all systems online and functional.

As mentioned, compatibility with our existing systems was important for us. Each FMB80 RBDS encoder interconnects with both a standardized The Radio Experience system from Broadcast Electronics (used for on-air related metadata and transmission of artist/title, promotional RBDS display, textual advertising display and tagging) and a NAVTEQ BTC system that broadcasts real-time traffic via TMC and LocationPoint advertising. The unit is also compatible with a range of automation software providers.

Without a doubt, Audemat's FMB80 has proven to be the best product for Emmis' internal system requirements and BTC service provider obligations; and uptime of the all units is nearly 100 percent. Because Emmis stations run at capacity for content distribution over RBDS utilizing serial interfaces, UECP from multiple Internet sources, ASCII raw data and RT+ from TRE, I can say with confidence that the FMB80 performs well under the all the conditions a broadcaster must face in this area of their technology infrastructure.

For information, contact Tony Peterle at Audemat/WorldCast Systems in Florida at (305) 249-3110 or visit www.audemat.com.

TECHUPDATE

ENCO PADAPULT LAUNCHES NEW FEATURES

ENCO says that its latest version of PADapult is a metadata generation, translation, routing and distribution system that now supports more input, output and control types.

Data can be received via IP, UDP, serial, HTTP, file transfer or Telnet IP in a variety of formats including user-definable delimited text. These input types can "switched" so a station can alternate its "now playing" data between different sources (e.g., direct from automation during the morning hours and from a satellite receiver all other hours). PADapult is automation system-agnostic. Inherent support for new systems is added on a continuous basis.

On the output side, PADapult supports sending data to up to 10 simultaneous destinations via TCP/IP, serial, UDP (including HDR HDP/PSD standards for pre- and post-V4 importers), HTTP message (including native support for FriendFeed and Shoutcast), FTP/file transfer or Telnet, and each destination can have a separately-defined output type, data substitution set and more. Also included is the ability to insert scheduled messages into the metadata stream based on a user-defined schedule and weighting system.

For those interested in sending metadata to numerous sites, PADapult supports an output type that allows for UDP multicast data to be sent to tens or hundreds of affiliates simultaneously.

Up to 10 instances of PADapult can be run simultaneously on one current generation Windows workstation or server.

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

World Radio History

What will you do with all the extra rack space?

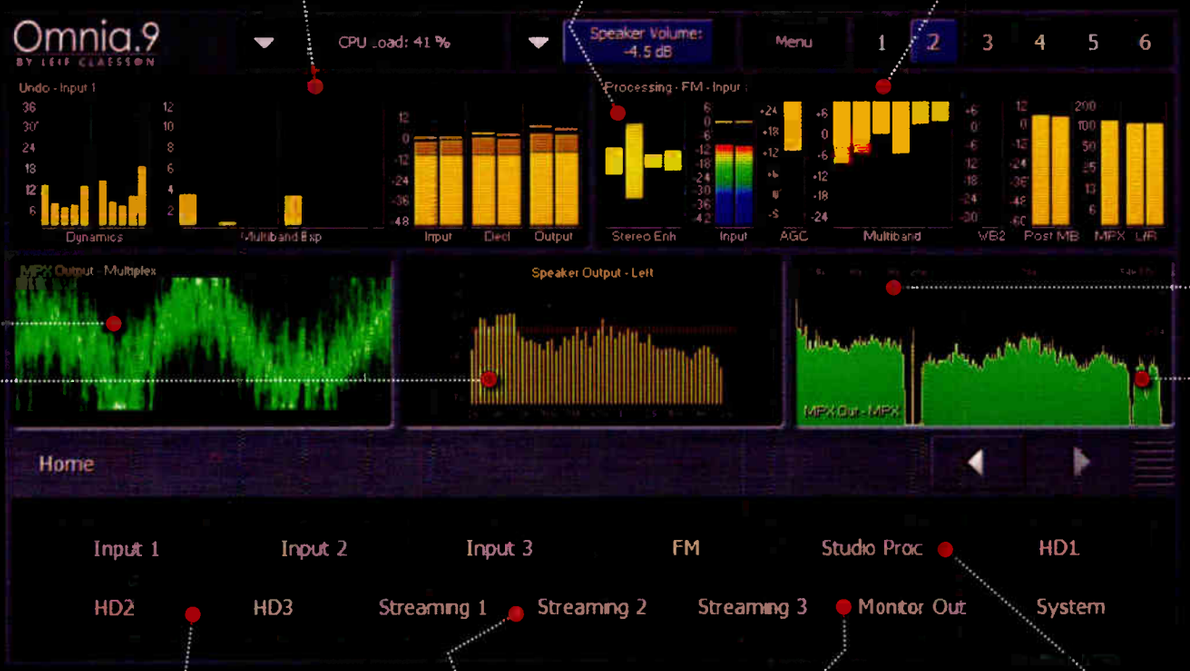
EXCLUSIVE "UNDO" TECHNOLOGY
Restores peaks and dynamic range to poorly mastered source material.

MULTIBAND STEREO ENHANCER
Dynamically widens or controls stereo sound field, providing a consistent stereo image.

VERSATILE DYNAMICS PROCESSING
Input AGC, up to three wideband AGCs, and up to 7 bands of multiband compression and limiting.

DISTORTION MASKING COMPOSITE EMBEDDER
Enables up to 140% Left/Right peak modulation within 100% total modulation, making the choice between being loud or clean a thing of the past. (Due to special sauce inside Omnia.9)

ON BOARD DIAGNOSTIC AND ANALYSIS TOOLS
A built-in digital oscilloscope, FFT spectrum analyzer, and RTA provide a visual reference so you can see what you hear.



SPEAKER CALIBRATION
Built-in RTA and pink noise generator allow you to calibrate your speakers to ensure your processing decisions are made on accurate, calibrated monitors.

RDS ENCODING
Send RDS without losing loudness by using the built-in RDS encoder. Loudness is maintained due to the method of embedding the RDS signal. (More of that special sauce makes this possible)

PROCESSING FOR FM, HD, AND STREAMING AUDIO
FM, HD-1, HD-2, HD-3, 3 audio streams, all have independent processing cores (multicast version).

BUILT-IN ENCODING FOR STREAMING AUDIO
No need for outboard encoders. Encodes to AAC, MP2, MP3, WMA, or Vorbis formats (multicast version).

SELECTABLE PATCH POINTS
Monitor and measure audio at virtually any point in the processing chain for each individual core.

SEPARATE STUDIO PROCESSING CORE
Provides low-latency, independently-processed audio for talent monitoring.

More stuff. Less space.

OmniaAudio.com/9

Omnia

World Radio History

2wcom Helps Drive NAVTEQ

Traffic Info Provider Uses C02 RDS Encoders With Its Nationwide Traffic Information System

USERREPORT

BY MARK SAUNDERS
Lead Architect
NAVTEQ

CHICAGO — The Radio Data System is a data bearer that uses the 57 kHz subcarrier on FM radio broadcasts. The data is generated by an RDS encoder, which produces groups of RDS information and adds them to the subcarrier. In its most basic form — providing on RDS-capable receivers an unambiguous readout of the station name and the ability to follow from transmitter to transmitter seamlessly — it has been in use since about 1986 in Europe, and now is used around the world.

DETAILS

Over the last decade in particular, many broadcasters have chosen to use the RadioText feature to provide details of on-air songs and artists and other program details, while traffic information service providers (such as NAVTEQ, part of Nokia) operate a Traffic Message Channel, providing densely-coded real-time traffic information to navigation devices to optimize routing.

In TMC, traffic messages are sent as a series of codes representing locations on the road networks, incidents (accidents, road work, driving hazards, etc.) and speed of traffic flow on each road segment. The use of codes provides efficient bandwidth usage of the RDS bearer, and language/units independent presentation.

To operate "dynamic services" such as TMC, the RDS encoder needs to comply with the Universal Encoder Communications Protocol (UECP), which is the command protocol that RDS servers produce. UECP not only specifies what TMC data will be transmitted, but also how that data will be interleaved with for other RDS groups — for example RadioText — and how many times the same data will be transmitted before being discarded.

One of the other important things for both broadcasters and traffic information service providers is to be able to monitor the RDS data stream, to confirm the functioning of the encoder, check that it conforms with the RDS and RDS-TMC specifications and to be able to record and archive RDS data broadcasts for both use in the event of a query, and to provide sample data to manufacturers, developing a TMC receiver in Japan, to be used in Russia, for example.

Werner Drews at 2wcom has been involved in the development and production of RDS encoders and monitors for almost as long as RDS itself, and 2wcom's flagship encoder, the C02, handily fulfills the needs of a TMC service provider such as NAVTEQ or any other RDS broadcaster.

The main setup of the C02 uses an intuitive screen GUI configuration application (ARCOS) from which each RDS parameter (PI, PS, PTY, DI, MS, TP, PTYN, etc.) are configured, as are RDS Group Sequence (GS) and associated parameters along with communication protocols (ports, etc.) to connect the encoder to the TMC servers and playout systems.

On the front panel of the 1 RU 19-inch rack-mount unit, as well as basic LED status indicators, the C02 has a two-line display and a jog wheel used for initial setup and to check monitoring without additional software or tools. Its little sister, the C04, is a reduced-price slave model that lacks the display and jog wheel, but otherwise has the same functionality.

Both encoders can be configured to self-monitor, and to send email alerts or cause a contact closure if the RDS data stream or individual parameters are off-normal.

Not only are the 2wcom encoders UECP-compliant, they also have a built-in decoder. This means that the complete "raw" RDS data produced by the encoder can be both archived, and by using the accompanying RDS Lab software, fully decoded, so it can monitored for accuracy. Also, a further invaluable option for the TMC service provider is the decoding in "plain language" of the decrypted and decoded TMC messages, providing an instant confirmation of the correct broadcasting of the TMC content.

The combination of a UECP-compliant encoder, easy network configuration via the front-panel display and jog-wheel, and unparalleled decoding and monitoring make the 2wcom C02 a market-leading RDS Encoder that fully meets all our needs.

For information, contact Barbara Petersen at 2wcom Systems in Germany at 011-49-461-6628300 or visit www.2wcom.com.

TECHUPDATE

AUDESSENCE UPGRADES RDS-PRO LINE

Audessence has continued improving and expanding its RDS Pro range of RDS encoders. Updates are free at *www.audessence.com/downloads.*

Major firmware update 1.5c (2011) added UECP-compatibility to the earlier addressing system, opening up applications such as RT+ (song tagging) and TMC (Traffic Message Channel — real-time accident/road work updates to satellite navigation systems in cars). TMC applications using the most common implementation (group 8A and MEC30) are supported.

UECP (Universal Encoder Communication Protocol), also known as SBP490, specifies standardized methods of communication between the outside world and RDS encoders, including methods for addressing and for advanced present and future RDS applications. UECP is an open standard. The company says this means that addressing a large number of RDS encoders via a single data stream is no problem. Encoders can easily be grouped by site, station or a particular encoder when sending out the data.

Earlier firmware and software for the RDS Pro range already included support for many advanced applications such as dynamic PS scrolling (where legal), 99 RT messages handling, "standalone" scheduling and even EON.

In the latest incremental firmware releases, the company says, detail features needed for smooth running of TMC operations have been implemented based on user feedback.

Hardware now ships able to produce 2V Pk-Pk RDS output following a user request for more level — needed to drive older transmitters.

Latest models in the RDS Pro range include RDS Pro-3 with LCD display for on-site verification of transmitted RDS data without any need to connect via computer. RDS Pro-4 has the LCD and also a 10/100 LAN port for IP remote control, in addition to the RS-232 (rear panel) and USB (front panel) ports that are standard in RDS Pro products.

Windows control software supplied on CD includes direct IP access without needing add-ons such as a virtual serial port. RDS Pro-2 and RDS Pro-4, the company says, are thus ready for immediate and straightforward deployment using IP control.

For information, contact Audessence in England at 011-44-144-488-0444 or visit www.audessence.com.

World Radio History

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

1876: Alexander Graham Bell's commercially viable telephone.

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

1920: Every home is working toward having a telephone!

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

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

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

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

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

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World Radio History

TECHUPDATES

SOCIAL MEDIA TAKES CENTER STAGE AT ARCTIC PALM

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The On-Air module includes an immediate posting option providing staff with one entry point to post updates to datacasting services including RDS/RBDS encoders, HD Radio, websites, streaming services, Twitter and Facebook.

When CSSocial is added to our CS Contest Management software, selected contest winner/qualifier information will be posted to the datacasting services and/or social media accounts. When scheduling the contest, select the social media option and add the associated hash tag and URL link. When the winner/qualifier is updated, the message will be posted based on a user-definable delay for prerecorded winner calls, "Congratulations Mike from Daytona, our Hit of the Day winner."

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

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AXEL TIGER SHARK OFFERS MANY OPTIONS

Tiger Shark from Axel Technology is a stereo generator with an RDS/RBDS encoder. It has been designed for the requirements of any structured FM network, especially those that manage advanced machine control and signal changeover, using PC and Web server interfaces.

Tiger Shark supports advanced RDS dynamic services including TMC, ODA, IH, TDC, EWS, RadioText and RadioText Plus, available on FM receivers and smartphones. In addition to standard CENELEC methods, RDS programming has been enriched with larger PS and RT sets (also available in dynamic mode) with comprehensive scheduling capabilities. Using an onboard GPS satellite receiver, such as the Sat Time Synchronizer, local time information can be introduced as part of the RDS data.

The internal multiplex decoder can decode an MPX signal coming from an STL and continuously check important parameters such as MPX deviation, pilot presence, RDS presence, PI code, audio left-right. In case of a fault, Tiger Shark's internal audio changeover allows the input of an analog left+right signal or AES/EBU digital audio automatically and, depending on the input source, a different RDS data set can be sent on-air.

Tiger Shark communication features include remote control via RS-232, modem or TCP/IP. It has a password-protected Web server that is compatible with FTP, Telnet, SNMP, HTTP and UECP protocols. It can be interfaced to various automation systems and offers an ASCII protocol for broadcast song/artist information over PS, RT and RT+ services. In case of alarms, it supports SNMP alerting for automation systems.

Tiger Shark is available in two versions: Tiger Shark, a stereo generator with RDS/RBDS encoder, or Tiger Shark-R, an RDS/RBDS encoder only. It occupies one standard rack, with a universal power supply.

For information, contact Axel Technology in Italy at 011-39-051-736555 or visit www.axeltechnology.com.

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The Magic AD1 can be connected anywhere in the ETI 2 signal (NA, G.704 and NI, G. 703) to be monitored or it can be connected in parallel with the signal path. When the system drops out, the E1 (2 Mbps) connection is bridged via a relay. All audio programs in the data stream are monitored and an individual program can be extracted and decoded. Via the 2 Mbps output further ETI decoders can be cascaded, so that several programs can be decoded simultaneously.

The audio signal can be output as an analog or optionally as a digital (AES3) signal. Additionally, a headphone output is available.

On the front display all available programs are shown in list form. The audio programs can be switched by pressing a key at the system. Two relays and six GPIO contacts are provided for external signaling of alarms. Via the integrated LAN interface the system is controlled and monitored. With SNMP the system can also be integrated into a network management system via this LAN interface.

Using the included Windows software, a detailed alarm monitoring can be maintained, the content of the ETI/EDI data stream can be decoded and the internal alarm memory can be read out. All relevant information, such as, e.g. 2 Mbps alarms, the number of subchannels, types of subchannels, etc., can be displayed.

For information, contact AVT in Germany at 011-49-911-5271-0 or visit www.avt-nbg.de.

World Radio History

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

1876: Alexander Graham Bell's commercially viable telephone.

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

1920: Every home is working toward having a telephone!

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

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

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

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

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

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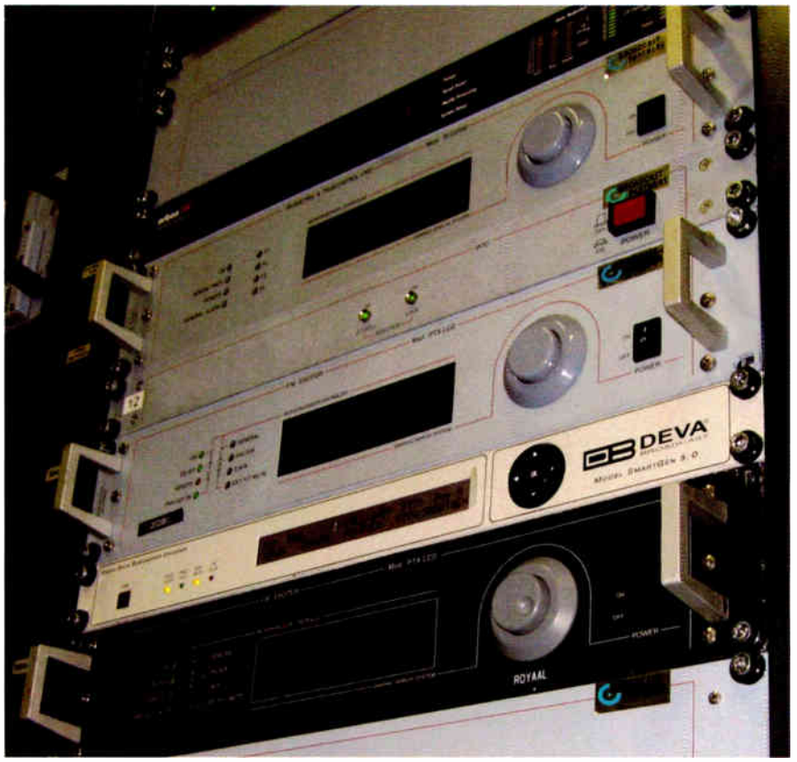
World Radio History

Deva's SmartGen 5 Passes Test

European Network Operator Likes Internet Remote Control Options

USERREPORT

BY YVES VERMEERSCH
Broadcast Engineer
Broadcast Partners



TERNEUZEN, NETHERLANDS — Broadcast Partners, with its head offices in Netherlands, is a market leader in full-service FM network operations in Netherlands, Belgium and Denmark. All of our transmitters need reliable RDS encoders. Broadcast Partners uses RDS encoders from several major manufacturers.

We regularly try and test new RDS encoders with our in-house-designed and developed RDS analyzing software. The benefit of using our own analyzing tools is that when some specific tests are required we can simply add that functionality.

For a new FM network we were looking for RDS encoders and tested the Deva SmartGen 5. At first, we did the test over an Internet connection. The prototype SmartGen 5 was in Bulgaria but tested from Netherlands. Of course the MPX output could not be analyzed but the content of the RDS groups were real time sent back to Broadcast Partners via Internet by Deva's DB-5000 RDS decoder for further analysis.

CONTROL

The SmartGen 5 can be controlled by RS-232, USB, LAN, WAN or worldwide by Internet. A configuration change can be done easily from our offices. That saves a lot of travelling time because our transmitters and their RDS encoders are located all over the country and also in Belgium and Denmark. Thanks to that remote control we do not have to send service engineers to all of our transmitter sites when a configuration change needs to be made. From our offices we are able to implement changes on a whole radio network in less than one hour using only a single engineer.

The most common settings can be changed by Web interface. The more advanced settings can be controlled by the user-friendly, free software, "SmartGen RDS/RDBS Encoder Manager." Once a configuration is made you are able to backup a SmartGen 5 easily and restore that file to all other SmartGen 5 encoders in your FM network.

A first look shows a simple but efficient user interface. When servicing is required on a transmitter site, almost all parameters can be controlled on the front and are shown on the display. This saves a lot of time because with that concept it's rare that a laptop should be used and connected to an RDS encoder.

The SmartGen 5 has the connectors that a quality RDS encoder needs; besides a LAN it has a serial port and USB to feed with a UECP RDS stream. When a second serial port is required you can use a serial to LAN device that you attach to your network. In that way for example, a second UECP stream with only TMC information can be fed by TCP or UDP to the SmartGen 5 while the serial port is busy.

Only two BNC connectors are present, one for the RDS or RDS+MPX output and, if needed, one for the pilot or MPX input from a sound processor or stereo encoder. With these two BNC connections all possible MPX routings on a transmitter can be completed. It's just a matter of configuring on the front or by LAN if loop-through or side chain is required.

You don't have to open the unit and change some jumper settings or connect to the right BNC on the rear panel.

As a network operator we use only UECP-compatible RDS encoders. The SmartGen 5 is compatible with that protocol. That means that also the RDS can be switched off or on by UECP, just like the RDS level. So changing the RDS deviation remotely over Internet is possible.

For Broadcast Partners the support of the manufacturer or dealer is important. We like the way Deva implements new features or improves existing functionality. Of course each new product has some minor things that could be improved but we appreciate the way and speed Deva implements or improves certain items.

Broadcast Partners service engineers are happy with the SmartGen 5 as result of the KIS principle: Keep It Simple. The RDS encoder is able to do all that we need: from a simple configuration for a local radio station to a complex RDS configuration with EON and TMC implementations for several radio stations. As easy as the SmartGen 5.0 can be used or configured, all you need is the knowledge of the RDS specifications to implement what you need.

For information, contact Todor Ivanov at Deva Broadcast in Bulgaria at 011-359-56-820027 or visit www.devabroadcast.com.

World Radio History

MEET AXIA'S NEW, SMALLER IP CONSOLES.

THEY'RE BIG WHERE IT COUNTS.

The more you saw, the more convinced you were that IP consoles made sense for your station. Problem was, you had small spaces to work in. Some behemoth board that looks like a '78 Oldsmobile just wouldn't fit. But there was no way you'd settle for some cheap plastic PA mixer that looked like a refugee from the church basement. "Wouldn't it be great," you thought, "if someone made an IP console that didn't take up a whole room?"

Then you saw the new RAQ and DESQ consoles from Axia, and your problems were solved. With the power and features of a big console, but minus the ginormous space requirements. RAQ will drop right into those turrets in your news station's bullpen – the reporters can send their finished stories right to the studio. And DESQ is perfect for the auxiliary production rooms.

But what sealed the deal was finding out you could run two RAQ or DESQ consoles with just one Axia QOR.16 mixing engine — you know, the one with all of the audio I/O, the power supply and the Ethernet switch built in. That brought the cost down so low that when you told your GM the price, he actually didn't swear at you (for once). Make another decision like this, and you might just be changing the sign on your door from "Chief Engineer" to "Genius."

AxiaAudio.com/RAQ | AxiaAudio.com/DESQ

Available in the U.S. from BGS: (352) 622-7700

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World Radio History

TECHUPDATES

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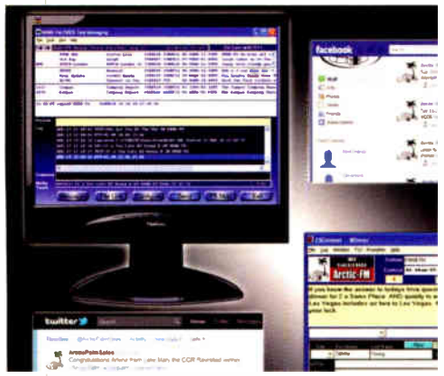

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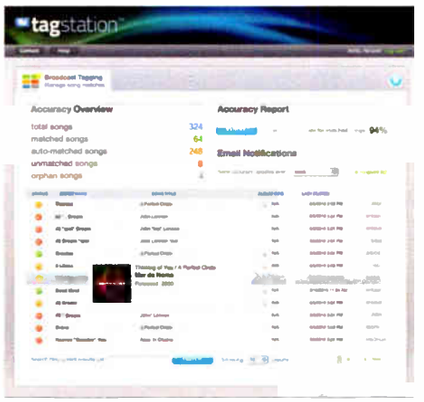
World Radio History

BE TAGSTATION BRINGS SONG TAGGING AND THE ARTIST EXPERIENCE TOGETHER

According to Broadcast Electronics, song tagging is one of those cool data services on everyone's list.

Jointly developed by BE and Emmis Interactive, TagStation solves a persistent iTunes tagging problem. It matches up the song data found in the typical radio studio with that of the iTunes music database so listeners can tag songs played over the air by FM and HD Radio capable receivers.



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

Offered by BE as part of its studio management systems, TagStation interfaces with the station's on-air playout system and RDS or HD Radio transmission gear. The TagStation cloud application uses song data from the station's automation system to create intelligent matches within the iTunes music database. It interfaces to any automation system including BE's AudioVault and BE's The Radio Experience (TRE) data management system for reconciling song data, with iTunes database lookup taking place in the cloud at the Emmis Interactive portal.

Whether listeners are tagging songs on the iPod Nano, an HD Radio or online, TagStation ensures that listeners have a positive and accurate purchasing experience, the company says.

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

Recently announced at the 2012 NAB show, TagStation now supports The Artist Experience, giving a station the ability to display album art, station logo and advertiser images on supported HD receivers. TagStation will automatically and accurately match your inventory with the appropriate album art.

TRE has a suite of apps for interleaving "now playing" text with traffic, news and other messages; for linking text messages to on-air audio; and for hooking into third-party providers for news, sports, weather and other data broadcast as text on RDS or HD Radio data enabled receivers. Both BE and Emmis Interactive are active in the development of RDS and HD Radio data applications.

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

INOVONICS

(continued from page 30)

favoring its user interface. It also allows management of scheduled and triggered messages through a website, whereas CS required users to install a program and connect directly to our network.

Ultimately, though, neither of these programs seems capable of using the full features of the 730 encoder; e.g. neither can set RT+ tags like program host and station name for our talk station, though it's possible to do so by sending the appropriate command to the unit. The 730s are the most capable devices in our datacasting chain, with features waiting unused for now.

As another example, our EAS units are able to send alert messages that supersede regular messages, but required an update to do so, which was not available when we installed them a few months ago. That confidence in the devices' future capabilities has made them well worth the investment, especially since Inovonics' technical support has been eager to assist with every new application we have attempted.

For information, contact Lukas Hurwitz at Inovonics in California at (831) 458-0552 or visit www.inovonicsbroadcast.com.

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World Radio History

NAB SHOW IN PHOTOS

Photo by Kavats Dailey

NAB Joint Board Chair Paul Karpowicz introduces Donny Osmond, the Radio Luncheon keynote speaker.

Between them, these guys have built a LOT of studios. Bud Aiello, currently involved in the planned move of NPR's headquarters, catches up with Jack Williams of Guy Cartwright and Co LLC. Williams was founder and president of Pacific Recorders and Engineering (more readily known to engineers of a certain age as PR&E), primary console supplier for an earlier NPR buildout.

All photos by Jim Peck unless otherwise noted

John Bisset and Mary Ann Seidler recently joined Elenos USA.

Larry Katz of Kay Industries and Phil Zittell and David Holland of Omnirax Technical Furniture

The MK 4 is Sennheiser's first large-diaphragm studio condenser.

Carl T. Jones made a return visit to the NAB Show floor. Jones, center, retired from the engineering consulting firm that bears his name in 1985. He's shown inspecting a Kintronic Labs phasing and coupling system with Tom King, left, president of Kintronic Labs, and son Tom Jones, current president of Carl T. Jones Corp.

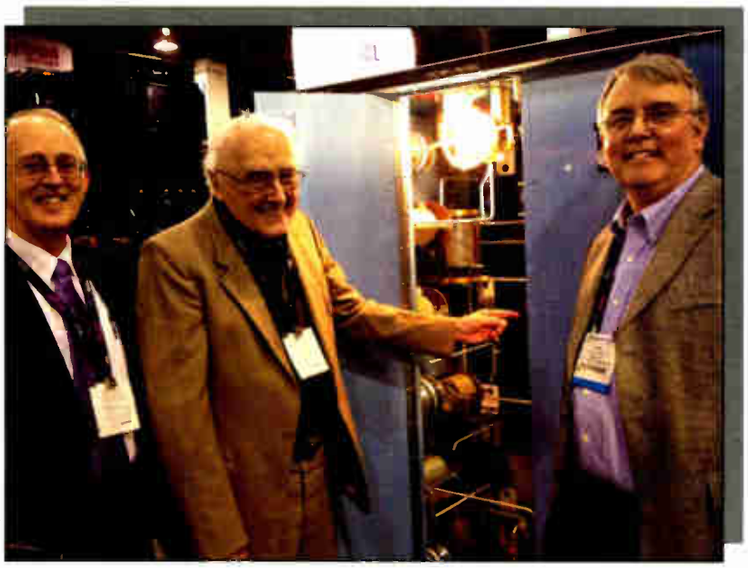
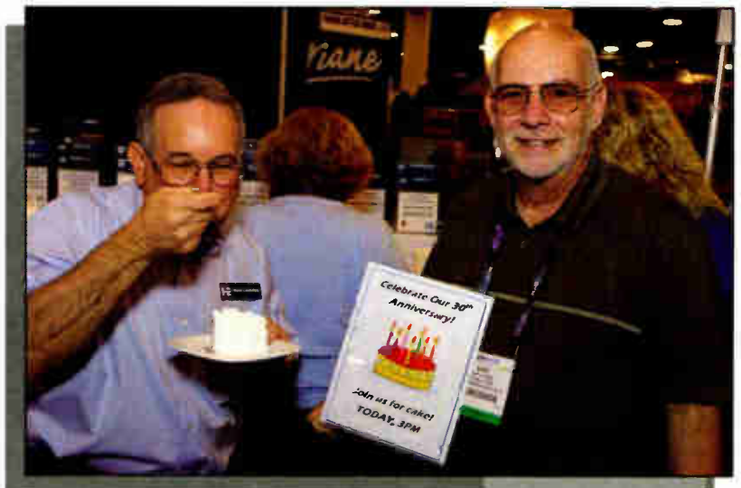


Photo by Paul McLane



Hank Landsberg bites into some 30th anniversary cake at a Henry Engineering party, accompanied by Burt Weiner.

More on page 42

World Radio History

The future is calling.
(It's for you.)

These days, nearly everything is networked. And now, so are your broadcast phones. Meet Telos VX, the multi-line, multi-studio, networked talkshow system.

VX uses standard Ethernet to connect all the phones, hybrids and consoles around your facility, transporting caller audio, mix-minus, POH and control logic on one skinny cable. Connect to POTS, ISDN-PRI, or even BRI telco lines via standard gateways, and *voila*, they're available for use anywhere in your facility. And if you decide you want to use VoIP services VX can do that too.

VX is so scalable, it can manage multiple simultaneous talkshows in the largest facilities. Yet it's cost-effective even for a few studios. Audio is clean and consistent, because dedicated, third-generation Telos hybrids manage each individual call. Even conferences are crystal-clear. You can deploy VX "virtual phones" in production rooms, news workstations, or anywhere there's a PC with a USB mic and headset. Got a hot talkshow that suddenly demands more lines in a certain studio? Just a few keystrokes at a computer and you're set.

Ready for the future? Get Telos VX. Because you've got more than callers on the line.

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

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

World Radio History

NAB SHOW IN PHOTOS

More on page 46

All photos by Kovacs/Dawley unless otherwise noted

Lutfi Aysan describes Onair Medya's new 2.5 kW FM transmitter, the FT2K5.

Colorful buttons on a 25-Seven Systems audio profanity delay.

Photo by Jim Peck

This pigeon managed to slip inside the South Hall entrance and found a place to contemplate the Vegas heat in comfort.

BSW returned to the exhibit floor this year. Tim Schwieger and Shannon Nichols are shown.

25 THINGS
YOU MIGHT HAVE *Missed* at the NABSHOW®

With Radio World's Paul McLane, Marguerite Clark, Leslie Stimson, Michael LeClair and Brett Moss

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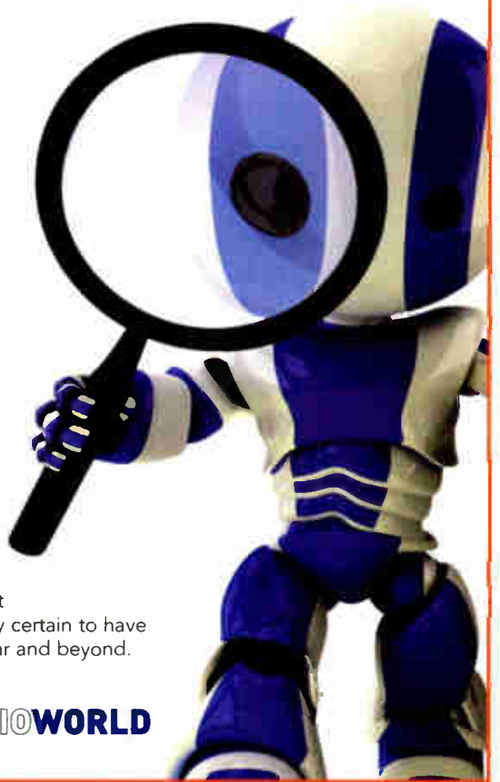
Join us for a FREE executive briefing on the **25 Things You Might Have Missed at the NAB Show**. The Radio World editorial team traveled the sessions and exhibit floors of the Las Vegas Convention Center to find the people, news and technology certain to have an impact on radio broadcasting and station operations throughout the coming year and beyond.



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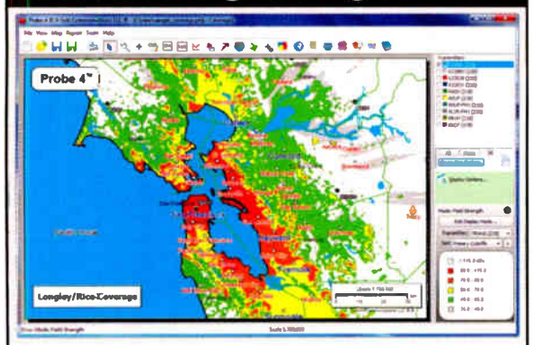

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World Radio History

'Broadcasting Is a Robust Business'

Smith Promises to Provide a Platform for Innovation and New Technology

Excerpts from the opening remarks of NAB President/CEO Gordon Smith at the 2012 NAB Show:

Where do you want your businesses to be in 5 years? In 10 years? In 20 years?

NEWSMAKER

A recent Wall Street Journal article had the headline "Don't Look Now: A Car That Tweets." The article said that Ford already allows drivers to send and receive Tweets, stream Internet music and access podcasts. And soon, drivers of other vehicles will be able to check Facebook and buy movie tickets.

How does radio fit into this scenario — what do we see as radio's future — is it streaming or over the air, or both?

Some believe streaming is the future. Others believe it does not grow the bottom line — that stations should focus on bringing in more traditional revenues. Are you feeling pressure to jump into streaming? Perhaps you are sensitive to criticism that if radio doesn't get into streaming, you will be left behind or seen as resistant to change.

Only you know the right answer for your business, but whatever path radio decides to take, NAB will be there to advocate on your behalf to help ensure a robust future for many decades to come. ...

© NAB Show

I have always heard broadcasting described as ubiquitous. But ubiquity yesterday meant a radio being on the dashboard, in the kitchen and on the nightstand. Ubiquity meant a television in every living room — these days, almost every room in the house. But ubiquity tomorrow must mean broadcasting's availability to all people at all times in all places and on all devices. The current broadcasting model can be undone by technology, or government, or some unintended consequence from either.

It says in the book of Proverbs, "Without a vision, the people perish." I genuinely believe if we have clear-headed thinking and proper vision, our business will continue to prosper. And I have no doubt about what that vision is: to educate, inform and entertain viewers and listeners through our one to many transmission — again, to all people, at any time and on every device.

The wireless industry wants to replicate what we do. In fact, they are developing their own mobile-TV network; but they say they need more spectrum. And they could get what they want, pending approval from the government. ...

Here's the problem: Even with all the spectrum in the universe, the wireless industry's "one-to-one" architecture could never match our ability to broadcast voice and video to the masses. Broadband can never replicate the lifeline role of the local broadcaster. Broadcasters are always on, always there when you need them. Especially in an emergency. ...

[E]ven today, broadcast radio and TV are where the ears and eyeballs are. After all, more than 241 million people listen to free radio every week.

Even in an era of Pandora and Spotify, local radio is by far the number one source for new music. And this is just using our existing business model.

Radio has new opportunities including on mobile phones. This is a standard feature on cell phones in Europe and Asia.

Many phones in the U.S. already have this capability, but the carriers don't make that known and may refuse to activate the chip. Why?

Some say because they have a vested interest in charging consumers with fees for data streaming. But given the certain failure of mobile phones in a lifeline situation, we're hopeful that over time, carriers will come to understand and appreciate the importance of having an activated radio tuner in these devices, and to off load their ever congested airwaves. ...

But despite the tired claims of our misguided critics, broadcasting is a robust business. Both radio and TV have cycled out of the worst advertising recession in history. Yes, there are challenges, but broadcast revenues remain strong and growing. And the future is bright.

We're evolving onto new platforms. And it's not just on mobile phones. We also need to be on tablets, laptops and game consoles and on mobile devices not yet developed. We expect our newly-launched NAB Labs will be at the forefront of this initiative to push the limits of broadcasting.

We will provide a platform for innovation and for testing new technology. Our adversaries would like people to believe that the best days of broadcasting are over. We will prove them wrong.

Read the full transcript at http://radioworld.com/May-09-2012.

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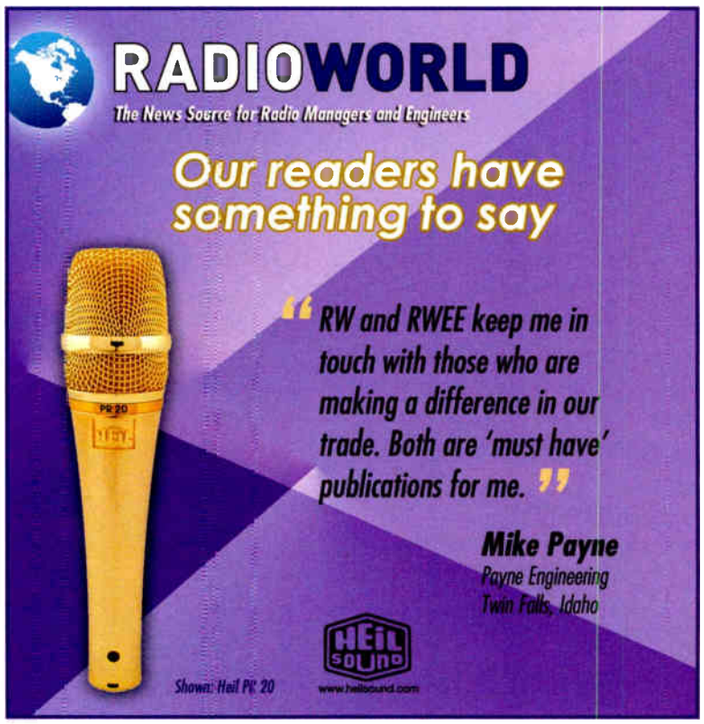
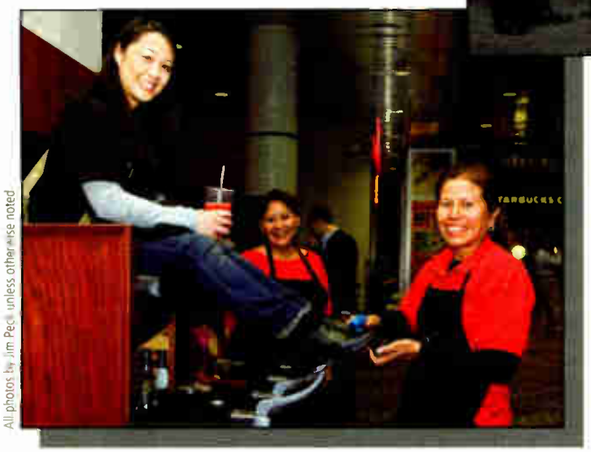


World Radio History

NAB SHOW IN PHOTOS

Even five days into show activity, some people find enough energy to respond to a smile. Here in the lobby outside the North Hall, shoe shines and good cheer in equal amounts were to be found.

All photos by Jim Peck unless otherwise noted



© NAB Show

NAB Crystal Radio Award winners are honored. Receiving the award were KBOW(AM), Butte, Mont.; KCVM(FM), Cedar Falls, Iowa; KNDE(FM), College Station, Texas; KNOM(AM), Nome, Alaska; KTMY(FM), Minneapolis/St. Paul; KVOE(AM), Emporia, Kan.; KYW(AM), Philadelphia; WKRQ(FM), Cincinnati; WREW(FM), Cincinnati; and WSOY(AM), Decatur, Ill.

Swag? Learning? Both.

The loot table was groaning with the weight of prizes at the Amateur Radio Operators Reception.

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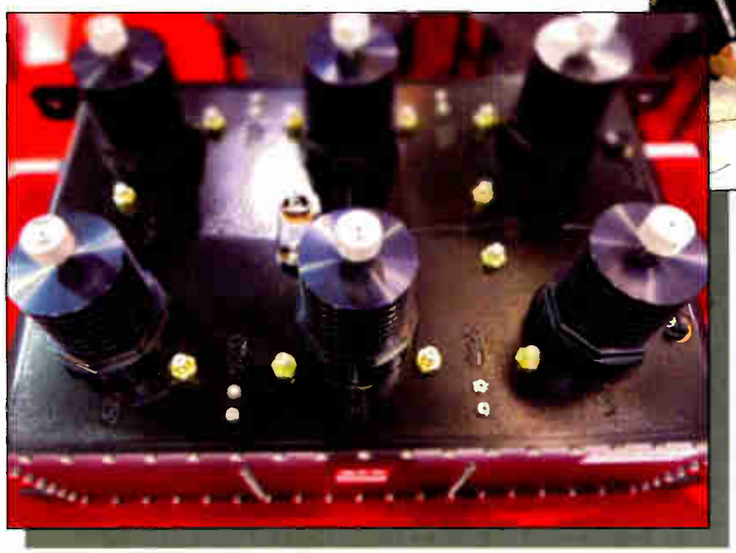
A celebrity drops in for an interview on the show floor.



Perspective is everything. This RFS/Cablewave filter would fit in fine in a Flash Gordon serial from the 1930s.

World Radio History

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Radio Systems manufactures great Analog and Digital Consoles, Distribution Amplifiers, Clock and Timing Systems, and the StudioHub+ broadcast wiring solution. We appreciate your past and future support by buying and recommending our products. But this ad is designed to promote what we really think makes Radio Systems stand out–our team. For 35 years, even before the word was popular–we've had a holistic approach to doing business in radio. That's because we understand that to be a best value–our products must not only be well-designed, constructed and customized; but also be well supported and interface easily to other gear.

Radio Systems is the only major broadcast manufacturer to provide:

- **Upgrades to 20+ year-old consoles to current manufacture**
- **Customized products for specific studio requirements**
- **Interconnect of our products to all major equipment types with StudioHub+**
- **Replacement parts for products up to 30 years old**
- **On-site integration and consultation from our lead team members**

And we're always available to design, explain, troubleshoot, service or ship an emergency order. The bottom line is that when you buy Radio Systems, you get much more than just equipment – you get us.

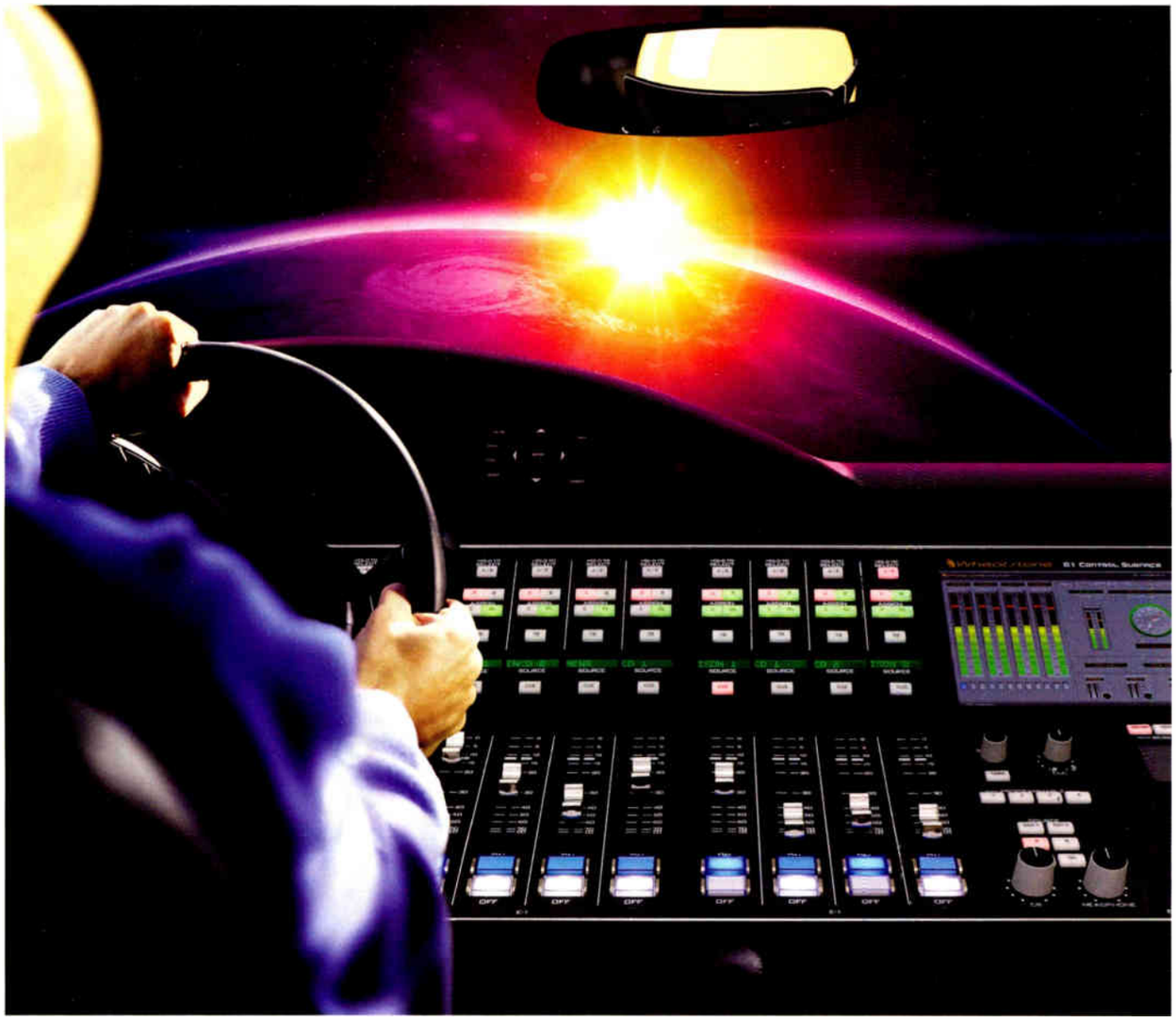
radio SYSTEMS

601 Heron Drive · Logan Township, NJ 08085
Phone: 856-467-8000 · Fax: 856-467-3044
www.radiosystems.com · sales@radiosystems.com

World Radio History

WHEATNET

THE INTELLIGENT NETWORK



The new drive time

It's time to drive listeners to YOUR station. Here's the first step...

People say it's never been tougher to be in radio. We look at it a little differently. We think, while the challenges are great, there have never been more opportunities for radio than there are today. First, though, you need solutions that can handle ideas you haven't even thought of yet. Solutions that can enable your creativity without limitations. That's WheatNet-IP's Intelligent Network. With it, you're ready to drive your listeners to places they've always wanted to go but never knew how to find.

Wheatstone

THE WHEATNET-IP ENVIRONMENT

INTELLIGENT AUDIO CONTROL SURFACE CONSOLES, INTERFACES, ENGINES & PROCESSORS

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