

Deregulation 'Gave Martin Pause'

by Leslie Stimson

WASHINGTON FCC Chairman Kevin Martin faced some tough questions on a variety of topics, mostly from Democratic senators, during his renomination hearing. But most observers expect the Senate to confirm him for a second five-year term as a commissioner.

If reconfirmed he would also retain his chairmanship as long as President Bush, who designated Martin as chairman in March of 2005, remains in office.

The president renominated Martin for a second term as commissioner and chairman in April.

Martin answered questions about media

ownership. One Democratic senator revealed a localism study that had reportedly been "suppressed" by the FCC.

EAS was discussed briefly; Martin agreed to hold off on the agency's pending rulemaking so as not to conflict with congressional action.

The Senate Commerce Committee conducted the renomination hearing, together with the nomination hearing for John Kneuer as administrator of the National Telecommunications and Information Administration, in September. The GOP-controlled chamber conducted a slate of nomination hearings well before the congressional target Oct. 6 adjournment date with the hope of bringing the nominations

to the floor for votes before November elections.

NAB President/CEO David Rehr urged lawmakers to vote for Martin and Kneuer.

Rehr support

In a letter to Committee Chairman Sen. Ted Stevens, R-Alaska, Rehr stated, "Chairman Martin deserves all of our thanks and support for his in-depth understanding of complex issues and his ability to communicate those issues to the American people." Rehr also noted Martin's "ability to work with industry."

Most of the lawmakers' queries were for Martin, and media ownership was the

subject of questions related to radio.

Sen. John Studdert, R-N.H., said that in 2003, Martin, then a commissioner, and two colleagues voted to deregulate media ownership rules by allowing one entity to own up to eight radio stations, three TV stations, the newspaper and cable company in one market.

"It's not okay with me," said Sununu, who called the action a "horrible mistake" that invested far too much power in too few hands.

Several public interest groups challenged the rules and most of the changed regulations were sent back to the commission by a federal appeals court to be better justified. Although the local radio ownership limits were not changed in 2003, they now are under review as the FCC scrutinizes all media ownership rules.

Sen. Byron Dorgan, R-N.D., asked Martin if he still felt okay about one company owning the outlets described above in one market.

Martin said that at the time of the vote it "gave him pause," but he voted in favor of deregulation because the record indicated the limits were acceptable for the largest markets. He said the FCC needs to start a new process, have public hearings "and see where the public says we should go" on the issue.

Sen. Barbara Boxer, D-Calif., said she was pleased the agency announced the first of six such public hearings would be held in Los Angeles on Oct. 3. She pushed Martin hard on localism, the initiative announced in 2004 by then-Chairman Michael Powell, in which Powell asked for the opinion on how broadcasters are serving the public interest and whether the agency needs to adopt new policies designed to promote localism in radio and TV.

This year, several lawmakers including Dorgan urged Martin to complete the localism proceeding before starting the media ownership review. When the commission voted in June to begin that review, Martin said comments from the localism proceeding would be consolidated into the ownership Further Notice of Proposed

See MARTIN, page 10 ▶

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Clouds in the Forecast

Study: HD-R, Internet, Podcasting Can Help Radio Make It in Face of Skimpy Growth

by Leslie Stimson

In order not to lose any more ground, the radio industry needs to focus on inventory reduction, new technology and growth in niche formats.

That's the advice of New York capital fund investment firm Veronis Suhler Stevenson in the 20th edition of its "Communications Industry Forecast." In the report, the company makes the assumption that radio is evolving from a growth medium to a mature one due to several factors including audience fragmentation and growing competition from satellite radio, Internet radio, podcasting and cell phone broadcasts.

Driven mainly by further expansion of satellite radio and Web initiatives, VSS predicts that between 2006 and 2010, total broadcast, satellite and online radio spending will increase 5.3 percent to \$22.01 billion in 2006, and expand at a compound annual rate of 5.4 percent from 2005 to 2010.

The investment firm says terrestrial radio advertising increased a mere 0.3 percent to \$20.07 billion in 2005, despite improved GDP growth and renewed listener interest in new audio broadcasting technologies.

(Note, figures in the accompanying charts may differ slightly from those reported here; the research company said some were prepared prior to the final compilation of the report.)

Satellite grows

At the same time, satellite radio is growing steadily. The satcasters received more than their share of adulation from Wall Street and the media industry last year,

at least a decade for the satcasters combined to gain 40 million subscribers, which amounts to only about 15 percent of the broadcast radio audience base.

Total Radio Spending												Compound Annual Growth	
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2000-2005	2005-2010
Broadcast Advertising*													
Spending (\$ millions)	\$19,848	18,389	19,409	19,603	20,013	20,071	20,470	20,717	21,455	21,672	22,154		
Growth (%)		-7.5%	5.7	1.0	2.1	0.3	2.0	1.2	3.6	1.0	2.2	0.2	2.0
Satellite Radio†													
Spending (\$ millions)		\$0.5	20	95	292	752	1,417	2,175	2,976	3,800	4,742		
Growth (%)			4,334.0%	375.0	207.4	157.5	88.5	53.4	36.8	27.7	24.8	—	44.5
Office Content & Advertising													
Spending (\$ millions)	\$0	15	19	22	44	87	121	162	204	247	292		
Growth (%)		63.0%	26.7	15.8	100.0	97.7	36.1	33.9	25.9	21.1	18.2	56.7	27.4
Total													
Spending (\$ millions)	\$19,857	18,384	19,448	19,720	20,349	20,910	22,008	23,054	24,634	25,720	27,188		
Growth (%)		-7.4%	5.8	1.4	3.2	2.8	5.3	4.8	6.9	4.4	5.7	1.0	5.4

Sources: Veronis Suhler Stevenson, PO Media, Harris Neeble, Merrill Lynch, Radio Advertising Bureau, Sirius Satellite Radio, XM Satellite Radio
*Includes only broadcast radio advertising spending, but not satellite radio advertising.
†Includes satellite radio subscriptions and advertising spending.

Satellite Radio Spending												Compound Annual Growth	
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2005-2010		
Subscriptions*													
Spending (\$ millions)	\$0.2	17	91	283	726	1,351	2,032	2,705	3,326	3,947			
Growth (%)		8,400.0%	435.3	211.0	168.5	86.1	50.4	33.1	22.9	19.7	40.3		
Advertising													
Spending (\$ millions)	\$0.3	3	4	9	26	66	143	270	474	795			
Growth (%)		1,025.2%	33.3	125.0	168.9	155.0	115.6	89.2	75.4	67.5	98.2		
Total													
Spending (\$ millions)	\$0.5	20	95	292	752	1,417	2,175	2,976	3,800	4,742			
Growth (%)			4,334.0%	375.0	207.4	157.5	88.5	53.4	36.8	27.7	24.8	44.5	

Sources: Veronis Suhler Stevenson, PO Media, Sirius Satellite Radio, XM Satellite Radio
*Less rebates and other costs.

Satellite radio, including subscriptions and advertising spending, grew 156.9 percent in 2005 to \$752 million as subscription spending surged 156.3 percent to \$726 million and ad spend jumped 177 percent to \$26 million.

By 2010 satellite radio subscription spending is forecast to grow 40.3 percent per year to \$3.9 billion and satellite radio advertising by 98.2 percent to \$794 million for combined spending of \$4.7 billion compared to the broadcast satellite spend-

ing in 2010 of \$22 billion. Broadcast and satellite radio spending will grow at a compound annual growth rate of 5.4 percent, reaching \$27.19 billion, as growth in satellite and online radio will augment slower growth in broadcast radio.

A "distressing trend" is the four-year slowdown in national spot advertising, which dropped 2 percent in 2005. In the four-year period of 1997 to 2000, national spot advertising saw double-digit growth — before the dot-com bust, notes Veronis Suhler.

The protracted slowdown calls into question whether mass radio consolidation actually builds economic efficiencies.'

While early on, station consolidation allowed stations to bundle low-cost inventory into packages that appealed to national advertisers, "The protracted slowdown calls into question whether mass radio consolidation actually builds economic efficiencies," according to the report.

considering the category's relatively small share of overall radio spending. However, "The fact that someone has a subscription doesn't necessarily mean they're a listener" to satellite radio, points out company EVP/Managing Director Jim Rutherford. He says all satellite radios allow users to toggle between broadcast AM/FM and satellite listening. "When I see that by 2010, the two companies combined will have 25 million listeners, that sounds like a big number" — but more like a quarter of "the relevant universe." He cites the approximately 110 million TV households as a comparison.

The company sees satellite more as a long-term, rather than a near-term, threat to terrestrial radio, predicting it will take

Rutherford noted that in 2005, 56 percent of the stations programmed four formats: country, newstalk/sports, adult contemporary and religious. With the

consolidation of formats, huge commercial blocks and voice tracking, "the terrestrial business handed the ball to satellite on that one."

questions the wisdom of terrestrial stations programming nationally while selling ads locally. The local advertising business in 2005 was \$104 billion across all media, including radio, cable and TV, while the national advertising business was \$93 billion.

Several burdensome factors will conspire against radio in the short term: pricing pressures, a vulnerable local-sales See SPENDING, page 5 ▶

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Funny. Brash. No-nonsense. Unpretentious. Sentimental.

These are characteristics we love in native New Yorkers, and they are attributes of John Lyons, recipient of the 2006 Radio World Excellence in Engineering Award. Honorees represent the highest ideals of the U.S. radio broadcast engineering profession and reflect those ideals through their contributions to the industry.

Lyons, 57, is assistant vice president and director of broadcast communications for The Durst Organization in New York; you've read about him in our pages. To me, John more than fulfills the definition of excellence in engineering.

His most obvious recent contribution has been his exceptional work in developing and managing the master broadcast antenna facility atop 4 Times Square at a time when the city has been most in need of such capabilities.

His thumbprint, in fact, is all over New York radio, and we salute his career-long service to the broadcast community there as well as his involvement in numerous professional organizations. His selection five years after the Sept. 11 terrorism is particularly fitting; Lyons played an important part in the return to the air of many New York broadcasters after the attacks.

Something new

Talking by phone — coincidentally on the anniversary of 9/11 — I asked John how he'd characterize his career path. "Being flexible," he answered, and commented on the pace of technology change in broadcast over four decades.

"As people get older, a lot of them just can't deal with it. My mother was looking at the TV one day and asked me, 'What's all this damn dot-com stuff?' It was hard to explain it to her, even when I showed her on a laptop. Here's a woman who spent her career on a Remington typewriter.

"A lot of broadcast engineers did that in their careers. They could deal with a tube transmitter, or maybe even a solid-state

console; but then it all changed. Whether it's a BE AudioVault or the latest Prophet system, a lot of people fell by the wayside rather than deal with it."



Lyons explains Durst's communications system for emergency first responders at a press conference with city officials this spring.

Lyons' motto is "learn something new every day," and he has lived it.

He started in radio at WNYE(FM) at Brooklyn Technical High. Asked to cite his biggest influences, he names Joe Losgar, who as director of engineering for Bonneville's WRFM(FM) "gave a kid with a license and no experience a chance to work. And I've been doing it every day for 40-plus years since. I'm dedicating this award to him."

Lyons worked for Losgar as a transmitter operator and studio engineer. He then spent nine years as chief studio technical operator at WWRL(AM) and concurrently was director of engineering at ZDK Radio in St. John's, Antigua, an AM/FM station he built.

He moved to WOR(AM) to be assistant

chief. Owner RKO-General soon promoted him to become chief engineer of WXLO(FM), later renamed WRKS. He worked for over a decade there under a second notable influence, George Capalbo, vice president of engineering for the radio division of the company, which owned the maximum number of stations:

From the Editor



Paul J. McLane

Networks, then a new outfit, where he established standards for a nationwide satellite-programming network, built studios and developed its operations system. He went to WLTW(FM) as assistant chief engineer, then was promoted to chief of WAXQ(FM). This was with Viacom; the station was later sold to Chancellor and eventually became part of Clear Channel.

Durst

Earlier in the 1980s, when he was with RKO, Lyons had chaired the Master FM Broadcasters Committee at the Empire State Building, coordinating operations of 13 FMs there and at the World Trade Center. He resumed that chairmanship for four more years in the '90s and was design engineer for many Chancellor/Clear Channel operations including the five-station backup FM site at 4 Times Square, a facility designed in part to be ready for Y2K — "the non-event of the millennium," Lyons says wryly.

That backup, however, would keep WKTU(FM) on the air on 9/11.

Sept. 11 is never far from his mind. Lyons' office is atop 4TS and he is well aware that he is working 715 feet above the street.

"As I'm sitting here in my office looking down at a void in lower Manhattan, it is still striking. This tower went on the air just about three years ago; stations have moved over to Empire, some still have backups at Alpine and various other places; but still there is no building downtown. It's difficult."

For the most part, New York's broadcast
See LYONS, page 5 ▶

Photo by Steve Friedman

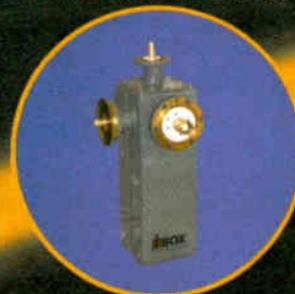
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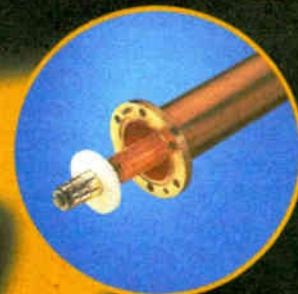
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Lyons

► Continued from page 4

cast engineering community, he says, is tight-knit, and demonstrated it when six members died at World Trade.

"We're all there for each other. Let the program people fight out the ratings; the engineers will watch out for each other. That was proven five years ago. Hopefully it'll always continue to be that way."

After the attacks, Lyons was one of those scrambling. He worked with Empire, 4 Times Square, broadcasters and contractors to restore broadcasting operations for all of the orphaned World Trade stations. He designed transmission line runs, laid out transmitter plants and assisted the stations to return to the air as soon as possible.

In 2002 Durst brought him on as manager of communications and broadcast operations to redevelop and expand the capabilities of the transmission facility atop 4TS.

I say that to my son: Learn one new thing every day before you go to bed. I still do that myself.

— John Lyons

He oversaw removal of the 132-foot master FM antenna tower and its replacement with a 385-foot master TV/FM antenna tower, one that could, in theory, accommodate every TV and FM station licensed to the New York metropolitan area. The facility also can handle point-to-point microwave, spread-spectrum, broadband, two-way, STL/TSL, RPU and ENG services. As I've reported, it's an impressive place, now home to one FM main transmission facility, nine FM backups, two TV mains, three TV backups, the city's Qualcomm/MediaFlo site and sundry point-to-point and broadband services, as well as an STL/TSL hop for WOR.

Though he's "just" the site manager, broadcasters ask him all the time to handle adjustments or problems with their facility. He's up there already; and he knows what he's doing.

In 2005 he was elevated to responsibility for communications needs of the company's 10 million-square-foot portfolio of buildings. He continues to innovate. He has spent two years establishing a state-of-the-art communications system for first responders, now in place in the Durst buildings, which will benefit firefighters and EMS personnel and protect Durst's tenants and properties. That alone is a huge accomplishment. Meanwhile, his design for RF monitoring and safety at a multi-user communications facility is a topic of attention at national and regional engineering conferences.

Impish maverick

Long lists of career memberships can be easy to skip over, but think about them: Lyons is active with the NAB Broadcast Engineering Conference Committee. He is a Fellow in the SBE and a Certified Professional Broadcast Engineer, and a former member of the board of directors and original member of the certification

committee of SBE.

He also is a Master Certified Engineer in both RF and non-RF disciplines with the National Association of Radio and Telecommunications Engineers; an associate Member of the Association of Federal Communications Consulting Engineers; a member of the National Association of Broadcasters Broadcast Engineering Conference Committee; and former president of the Veterans' Hospital Radio and Television Guild.

I know him to be a devoted family man. A New York native, he met his wife, Natasha, in Siberia — yes, that Siberia.

"In my other life, I did competitive ballroom dancing and international dance photography." (Where does he find the time?) "I was shooting the Russian dance championships in Bratsk, and she was one of the translators. Seven weeks later she was in America, and we were married shortly after. That was 14-1/2 years ago."

Their son Matthew, 13, is in 8th grade — "an overachiever, maybe like me" — and is a junior PGA golfer.

In recent years Lyons' career has taken another fascinating turn. When he came to Durst, he realized he was working for a real-estate company and knowledge of the industry would help immensely. "I can't sell the company if I can't sell myself," he says. So he went back to school, studying at night, and is now a Licensed New York State Real Estate Broker and a member of the Real Estate Board of New York as well as the Building Owners and Management Association; he also has a Certificate in Property Management from New York University. This, however, has not kept him from remaining an active and involved part of the broadcast engineering community.

I asked John how others would describe him. "I don't think we can put that into print," he replied. Pressed, he answered, "'Maverick.' That was a word George Capalbo used." It's a trait Lyons appreciates and would seek out when hiring an engineer. "That's what I'd look for: someone who thinks a little outside the box, has a little sparkle in their eye and is a little impish."

That's John.

His goal is to continue improving 4 Times Square and to attract more tenants. He'd like the facility to be considered the standard for multi-user sites, particularly in its management of RF safety. He wants it to be a design the FCC can point to as a model.

His career advice for other engineers? Keep learning. "I say that to my son: Learn one new thing every day before you go to bed. I still do that myself."

Whether it's designing remote input selectors for Gates Yards and BE Spotmaster boards in the 1970s, or developing a \$25 million skytop site in the new millennium, Lyons has innovated. He's a perfect choice for the 2006 Radio World Excellence in Engineering Award.

Spending

► Continued from page 3

management system and growing competition from various digital media.

Broadcast radio conceivably can improve its outlook if it moves beyond the large-scale consolidation strategy of the last five years and invest in HD Radio, Internet radio and podcasting technologies, according to the forecast.

Growth of U.S. Spending on Broadcast & Satellite Radio

	Local Advertising	National Advertising	Satellite Radio	Online Content & Advertising	Total Radio
2005 Expenditures (\$ Millions)	\$15,634	\$4,437	\$752	\$87	\$20,910
2000-2005 Compound Annual Growth (%)	0.5%	-0.8%	—	56.7%	1.0%
2005-2010 Projected Compound Annual Growth (%)	2.1%	1.6%	44.5%	27.4%	5.4%
2010 Projected Expenditures (\$ Millions)	\$17,359	\$4,795	\$4,742	\$292	\$27,188

Sources: Veronis Suhler Stevenson, PQ Media, Harris Nesbitt, Merrill Lynch, Radio Advertising Bureau, Sirius Satellite Radio, XM Satellite Radio

Rutherford says the pace of the HD Radio rollout needs to be faster.

"It's our sense that given what's going on with both satellite radio and iPods, to deal with that you've got to get digital radio in as many hands as possible."

Any progress would help, he adds. "It seems like it's been a promise forever. It seems like everything is in place, and now to a certain extent it's up to the industry and individual stations biting the bullet and saying it's in their interest to accelerate this."

Broadcasters, he adds, should not

"keep asking the question about how they can prove that this is worth the extra money to them. It's not that they're going to make money doing this, it's that they're going to lose less."

That's because ad growth has slowed dramatically, and the risk of waffling on IBOC is "continued erosion in revenues," Rutherford notes.

Not only does radio need to rollout IBOC faster, it needs to cut back on ad inventory and provide a local product, according to the company. And while it's

not "game over" for the oldest form of broadcasting, the industry has an opportunity to reinvent itself by focusing on its advantages, Rutherford said.

"There are more things you can do with audio, than, say, print," said Rutherford. "Radio is doing more Internet broadcasting and podcasting. The radio ad buy is efficient. Car commutes are getting longer."

"iPods are fine, but you can't get up-to-the-minute information on an iPod," he notes, citing radio's traditional stakehold on local information.

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ABU

► Continued from page 1

The ABU said it drew more than 200 high-level broadcasters and governmental regulators from more than 30 countries to its intensive, week-long, digital radio-only convention in August; it was reportedly the first show demonstrating all of the ITU-recognized digital radio systems.

The Asia-Pacific Broadcasting Union is a non-profit, non-government, professional association of broadcasting organizations. It was formed in 1964 to facilitate development of broadcasting in the region and to organize co-operative activities. It claims more than 160 members in 55 countries and regions.

The show theme, "Completing the Transition," underscored a global commitment to digital radio among attendees, the majority of whom have completed the digitization of studio operations and many of whom are in the early stages of digital radio deployment.

On-the-air demonstrations were shown of Eureka 147-DAB, Terrestrial-Digital Multimedia Broadcasting, Digital Radio Mondiale and HD Radio, as well as the satellite-based WorldSpace system.

Detailed sessions focused on standards, transmission planning, applications and services, receiver developments, convergence and analog switch off.

For North American presenters, the



The convention was described as the first to demonstrate all the ITU-recognized digital radio systems. Organizers said some 200 broadcasters and governmental regulators from 30 countries took part.

20-hour flight, date line jump and 12-hour time zone differential made for humorous adjustments. Stunning scenery nearby included the world's tallest buildings, the Petronas Towers; the KL Tower, said to be the world's fourth-highest communications tower; and a modern urban setting rising at a frenetic pace from the Malaysian jungle.

Ironically, the ABU Digital Radio

Convention even had a Korean On-Air, No Gravity system (KONG) presentation to emphasize that we "weren't in Kansas anymore."

But while most American presenters are accustomed to self-swapping laptops, loading flash-drive presentations and craning their necks to follow co-presenters, the host ABU organization ran an impeccably smooth operation that kept the focus on content rather than erratic body clocks.

Dedicated panelist monitors, plenty of audience wireless mics and handlers, monstrous projection screens and a bevy of helpful support staff were behind the

2.4 among analog listeners. Plentiful DAB sets in the U.K., aggressive promotion and a supportive regulatory environment were cited as important factors in the ramp-up in digital radio listening.

Throughout Asia, as well as Europe, research also points to increasing use of automobiles, attendant increases in mobile listening and the increasing availability of digital radios as standard new car options.

RECEIVERS AND CONTENT: MAJORITY OF U.K. NOW DAB HOUSEHOLDS

A constant theme among presenters was the overmastering importance of the combination of new content offerings and affordable receivers. Where the digital conversion is working well, it's invariably the confluence of new content and low-priced receivers that is driving success.

The United Kingdom bright spot now touts a total of over 3.2 million receivers having been sold, with DAB content reaching 55 percent of all households in many markets, thanks to television audio and Internet distribution simulcasts. That it has taken 10 years of concerted effort to reach this milestone is a sobering reminder to all undertaking digital radio conversion.

One presenter summed up a unifying theme that "One does not undertake digital conversion for the fun of it. It's hard work." Transitioning any industry to an entirely new technology is an inherently daunting task. Yet when it involves inducing consumers to replace multiple ubiquitous household appliances that still work well, it will necessarily require a lengthy transition.

Transitioning any industry to an entirely new technology is an inherently daunting task.

scenes synchronizing every session. Each attendee received a 300-page workbook packed with detailed convention presentations consolidating the best of current global digital radio information.

With many attendees clearly evaluating the applicability of Eureka, DRM or HD Radio systems to their needs, the sessions chronicling regulatory, funding and operating experiences were especially participatory and well attended.

DIGITAL LISTENERS LISTEN MORE, MORE OFTEN, AND ARE BUYING MULTIPLE SETS

The United Kingdom was a repeated highlight during the conference, with the most successful digital radio conversion to date. Some 3.2 million DAB sets have been sold there, representing a 42 percent increase since May of 2005, according to the Digital Radio Development Bureau, which promotes the technology in the U.K. Moreover, the group reported that digital radio owners are frequently buying multiple digital radio sets shortly after their first purchase.

Especially heartening for nations experiencing flat to modest radio listening declines, digital radio owners in the United Kingdom listen 16 percent more than analog listeners, 27.6 hours vs. 23.8 hours weekly, according to the promotional group. Digital radio owners also report listening to more stations — typically tuning to three stations each week vs. only

Nonetheless, the WorldDAB Forum reported that U.K. retailer Dixon's would soon discontinue sales of analog radios due to the growth of digital radio sales. Additionally, U.K. major retailer John Lewis' latest catalog only features DAB sets.

With more than 5,000 articles having been written on DAB, it's no surprise that Curry's is promoting both digital television and digital radio by offering a free DAB receiver to Flat Panel TV purchasers. Just over three years ago the 99£ Pure Digital "Evoke-1" model debuted; the figure is equivalent to about \$185 U.S. DAB proponents generally credit the radio as being a primary spark in the growth of Eureka 147.

SIDE-BY-SIDE COMPARISONS: RECEIVERS, SPECTRUM EFFICIENCY

The system contrasts between DAB, DMB, DRM and HD Radio were highlighted at numerous sessions. For Eureka, the theme of a global standard in operation on multiple continents repeatedly was emphasized, as well as the availability of more than 200 receiver models in the marketplace.

At the same time, the reduced costs, spectrum efficiency and regulatory simplicity of the more recently deployed HD Radio system gained significant interest, with the Harris and Broadcast Electronics

See ABU, page 8 ►

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Peter Greenberg—Host of the syndicated radio program Travel Today

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<http://remotebroadcasts.blogspot.com>*

➔ Radio Free Asia—Live from the Himalayas



"The results [with ACCESS] were especially reliable considering that Dharamsala has one of most "problematic" Internet infrastructures that we have come across." — David Baden, Chief Technology Officer Radio Free Asia

*For the complete story visit
<http://remotebroadcasts.blogspot.com>*

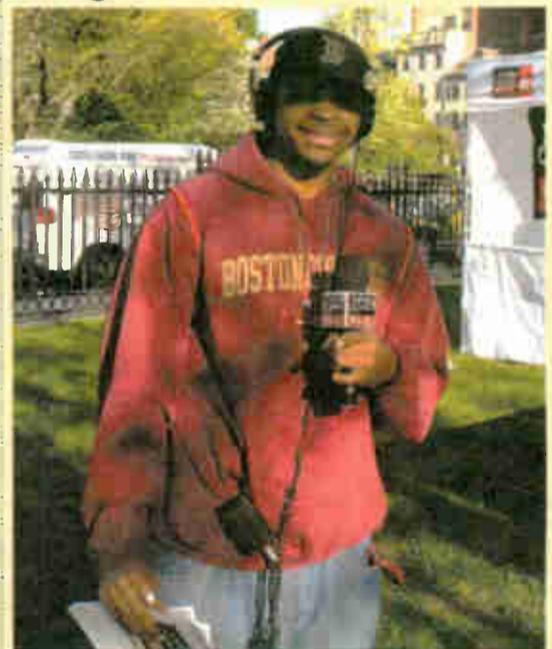
➔ Ski Mountain Remote



This picture, really demonstrates what ACCESS is about. This product truly has the ability to cut the wires.

*For the complete story visit
<http://remotebroadcasts.blogspot.com>*

➔ JAMN 94.5—Walk for Hunger



"ACCESS was used on the air exclusively for JAMN945 at this one. It was all over EVDO with a tremendous amount of active cell phones in the area. The ACCESS was connected to the Verizon wireless Broadband...

*For the complete story visit
<http://remotebroadcasts.blogspot.com>*

Put Comrex On The Line.

ABU

► Continued from page 6

booths receiving high traffic. The BE demo featured three audio channels running in the extended-hybrid mode, complete with PAD on all streams, feeding a Boston Acoustics HD-R receiver. The demo was a big hit and afterwards a similar BE demonstration was headed to Hong Kong where local operator Metro Radio will broadcast during the Sourcing China conference in mid-October.

That show will nudge the number of HD Radio on-air demonstrations up to a dozen countries on three four continents: North America (U.S., Mexico, Canada); Europe (France and Switzerland); Asia (Philippines, Thailand, Indonesia, Australia, New Zealand, and Hong Kong); and South America (Brazil). For attendees contemplating their system options, the North American Broadcasters Association provided 200 of its recently updated 50-page "Guide to Digital Radio Systems in North America" — a handout chronicling the deployment and demonstrations of DAB, HD Radio and DRM in this continent.

HD RADIO THEMES RECEIVE BOOST FROM DAB PROPONENTS?

Despite committing to the Eureka DAB system, Commercial Radio Australia highlighted the potential perils of requiring access to new spectrum, acknowledging its disappointment with less than full success in seeking a 10-year moratorium on the deployment of new

radio stations in new DAB spectrum.

Surprisingly, among the 250 models of DAB receivers on the market, CRA representatives indicated that they were less than satisfied with the design quality of available DAB units and had commissioned a prototype radio built to their specifications in Malaysia featuring rugged construction, elegant design and a large, bright display screen for feature-rich program associated data.

While not altering the allegiance to the DAB election by commercial radio broadcasters in Australia, these cautionary reports highlighted the perils of being subject to unpredictable regulatory oversight in gaining access to new spectrum, and the current shortcomings in acquiring high-quality digital radios at modest costs, even for the most successfully deployed digital radio system.

EMERGENCY ALERT CAPABILITIES A COMMON DEVELOPMENTAL FEATURE

Convention attendees, many representing regions affected by the Asian Tsunami of December 2004, were keenly interested in the advanced alerting capabilities inherent in digital radio systems. While standards and power consumption have limited the initial deployment of alerting capabilities, all proponents highlighted efforts underway to capitalize on radio's traditional role as a communications lifeline during emergencies.

The advanced alerting and messaging capabilities of digital transmission were discussed at length, with many approaches being investigated in different countries and with active discussions ongoing with governmental authorities on best alerting



ABU showcased a 'radio station in a box' that could be transported to disaster areas to provide emergency coverage. Housed in a rugged case, it contains a solid-state transmitter, antenna, audio mixer, microphones and monitoring for a quick-start operation. Shown: Malaysian Deputy Information Minister Chia Kwang Chye, left, and ABU's Rukmin Wijemanne.



Commercial Radio Australia commissioned a prototype radio built to its specifications in Malaysia featuring rugged construction, elegant design and a large, bright display screen for feature-rich program-associated data.

received among Asia-Pacific attendees, many of whom report having higher national percentages of hearing and visually disabled than the reported 32 million Americans so affected (11 percent).

CONVERGENCE COMPETITIVENESS: KONG, TAXI-SMART & VISUAL RADIO

The multimedia capabilities of digital radio were an additional theme, as service extensions of traditional radio services. In Singapore, for example, a Taxi-Smart system is being tested as a component of a Smart Radio system by MediaCorp radio.

The service is not dissimilar to hard-disk systems found in many New York taxis with backseat screens detailing restaurant, show and event listings. The DAB-based Taxi-Smart system emphasizes real-time interactivity with the latest news, weather and financial data at the customer's fingertips.

The Korean On-Air, No Gravity system features audio services, visual radio, messaging and fun "skins." A skin is a graphical interface giving the user control over the look of the interactive DMB radio experience. The KONG uses the DMB protocol that is compatible with DAB transmission architecture. Visual Radio Service was also highlighted, which like the KONG and Smart Radio systems can be deployed over DAB or DMB transmitters, in addition to Web streaming, to build radio brand loyalty.

The Korean Broadcasting Service launched Visual Radio in March of 2005. KBS says Visual Radio increases audience participation, offering a constant stream of studio pictures, messaging, station-based slide shows and additional information on multiple sub-channels.

Harris Corp., which says it's the only manufacturer to sell DAB, DRM and HD Radio transmitters, was the convention's principal sponsor, with Ibiqity Digital's HD Radio and some dozen other organizations providing additional sponsorship support.

It was an invigorating convention, sobering in the reality of the daunting task of converting billions of radio listeners worldwide to digital radio, but stimulating in the early successes, creativity and valuable feature sets being undertaken worldwide in the heady world of tomorrow's radio.

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

and messaging system configurations.

The ABU showcased an efficiently designed "radio station in a box" by its technical staff, one that could be transported easily to disaster areas and activated immediately to provide emergency coverage. Housed in a rugged transportable case, the unit consists of a Chinese-produced 30W FM transmitter, a sliding tray that carries the laptop used for editing and as the playout server, 12-channel mixer, CD/cassette player and a patch panel that also has a USB port for access to the laptop to download digital audio files from a portable digital audio recorder.

A dipole antenna is also supplied.

ACCESSIBLE RADIO SERVICES: A WELL-RECEIVED SERVICE CONCEPT

For NPR, I presented on the topic of accessible radio services, noting that NAB2006 was the venue for the first four-channel HD Radio demo featuring a radio reading service for the visually impaired as a fourth channel (along with three music-based channels), as well as the first demonstration of captioned radio for the deaf and hard of hearing.

Specialized approaches to the alerting and emergency services needs of these constituencies were explored, with significant interest in the concept of bed-shaker alerting support for the hearing impaired.

The additional potential to offer near-real-time described video via digital radio reading services for the print handicapped was detailed, in addition to conditional access encryption for maintaining copyright exemptions for daily printed material readings. This topic was well

Attention Programmers!

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Each week, host Stacy Keach takes you to another dimension — a dimension not only of sight and sound, but of mind. Your next stop ... THE TWILIGHT ZONE!

"We wanted TWILIGHT ZONE right away because of the artful way it delivers a classic genre to a new generation. Our reward has been real ratings performance. This show is consistently top 5 in our key 35 - 64 demo." TODD MANLEY - WGN Chicago.

"Instant name recognition and great listener feedback. Just one week with THE TWILIGHT ZONE RADIO DRAMAS and my curve is up 47% over the previous hour!" BOB BROOKS - KIXI Seattle.

"THE TWILIGHT ZONE RADIO DRAMAS is the best radio drama available. The all-star casts are terrific and the production values are exceptional! I receive more e-mail on the program than any other show. Keep those great shows coming!" REED HAGEN - KLBB Minneapolis.

"STACY KEACH does a great job and it's fun to hear actors we know from the visual media try out their chops on the aural side." GUY ALLEN TYNES - KWAM Memphis.

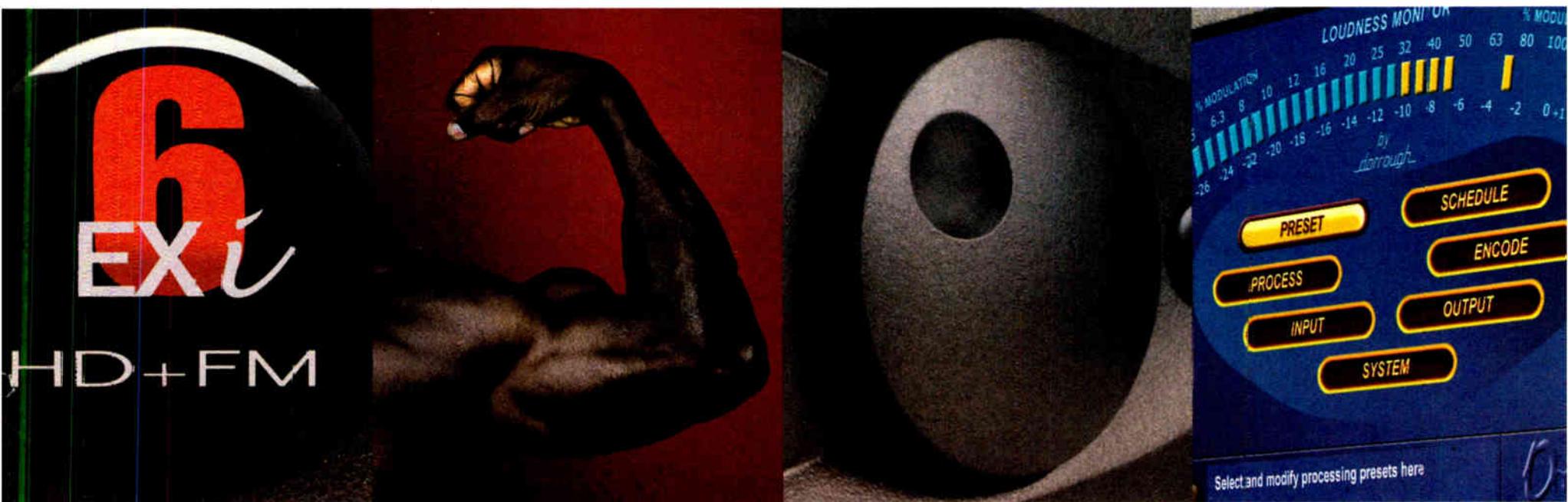
- THE TWILIGHT ZONE radio dramas are BRAND NEW radio adaptations of Rod Serling's classic stories. Each episode features a Hollywood celebrity, supporting actors, music and ambient sound effects. Now heard on more than 200 commercial radio stations, including: WGN Chicago, KSL Salt Lake City, KQV Pittsburgh, KFNC Houston, KLBB Minneapolis, KNUJ Las Vegas, KWAM Memphis, KJLL Tucson, WWTN Nashville, WCTC New York, WST New Orleans, KMA Omaha, KLVQ Dallas, and WHBL Milwaukee.
- Host Stacy Keach is joined by Hollywood celebrities: Jason Alexander, Jim Caviezel, Jane Seymour, Blair Underwood, Lou Diamond Phillips, Luke Perry, Ed Begley, Adam West, Daniel J. Travanti, Kate Jackson, Bruno Kirby, Chris McDonald, Adam Baldwin, John Schneider, Paul Dooley, Fred Willard, Henry Rollins, Hal Sparks and many others.
- You get TWO, One-Hour TWILIGHT ZONE radio dramas each week. Schedule One Hour on Saturday and One Hour on Sunday, or run them both in a Two-Hour weekend block!

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Omnia 6EXi

The Ultimate Upgrade.

Omnia-6 is the standard by which all other processors are measured. In the last few years, thousands of leading stations in the world's top markets have upgraded to Omnia. In fact, Omnia-6 has been so successful that some competitors have just given up; others are mere shadows of their former selves.

So why do broadcasters love Omnia-6? The *sound*. The clean, pure, crystal-clear sound (bone-shakingly loud, if you want) that's become the choice of #1-rated stations in New York, Los Angeles, Tokyo, Paris, London, Rome, Sydney and Beijing. The other guys tried to match its winning sound... and failed. So they've settled instead for trying to copy its innovative features.



Features that Omnia pioneered — like dual, simultaneous processing paths for HD Radio™ and conventional FM at no extra cost. The world's first non-aliasing digital clipping system, with composite clipping for the ultimate in competitive loudness. The high-precision Multi-Band Look-Ahead Limiter (invented by Omnia) for perfect HD Radio processing. The six-band limiter for conventional FM, with adjustable crossovers for surgically-precise control over your signature sound. An integrated Dorrough™ Loudness Meter. And of course, the groundbreaking 96 kHz, 24-bit platform that delivers full 20 kHz bandwidth for HD Radio broadcasts. Always innovating.

Which is why the **new Omnia-6-EXi** makes perfect sense. With **integral HD Radio Diversity Delay** that helps digital broadcasters eliminate analog connections to the HD exciter, ensuring independent analog and digital program streams. And the exclusive new **LoIMD Clipper** that actually **suppresses intermodulation distortion** to deliver audio that's cleaner, clearer and more detailed than ever — no matter how aggressive your processing. (If you already own an Omnia-6, don't worry — there's a low-cost upgrade to give your processor full-fledged Omnia-6EXi power.)

A lot of muscle? You bet. No wonder the competition is running scared.



Martin

► Continued from page 2
Rulemaking (FCC 06-93).

At the September hearing, Boxer asked Martin why the localism proceeding wasn't finished. He replied that the final hearing and a report were not completed under Powell, but that he had directed the FCC staff to hold the last hearing and review the work completed so far in order to draft a summary.

Boxer then produced a document she said was leaked to her, a draft report from June 2004 that reportedly concluded that locally-owned TV stations produce more local news than outlets that are not owned locally.

The FCC eventually distributed the

draft report to reporters. Titled "Do Local Owners Deliver More Localism?", the document focuses on TV and "hypothesizes that joint ownership of a TV and radio station by a local owner would increase the amount of local news aired on the radio station."

"I think there's work that's been done and it's been stifled," Boxer said. She asked Martin if he had read the report and said she wanted to get to find out who had "deep-sixed" the document.

Martin said he hadn't seen the report and was not chairman when it was written, but that he would read it and include the material in the pending ownership review.

"This is news that this kind of work has never seen the light of day," said Boxer, who opposes Martin's plan to ease restrictions on media ownership to allow owners to control more outlets.

According to the Associated Press, Adam Candeub, a former attorney with the FCC's Media Bureau, is alleging that senior FCC officials ordered all copies of the localism report drafted by the FCC in 2004 to be destroyed. Candeub is now a professor at Michigan State University.

EAS

Lawmakers briefly discussed the Emergency Alert System.

Sen. Jim DeMint, R-S.C., said he expected the Senate to vote on the WARN Act as part of a port security bill. The Senate did pass the WARN Act language as well as port legislation in early September.

The Warning, Alert and Response Network Act would enlarge EAS by expanding it to include digital technology and help coordinate government efforts to

improve the system.

DeMint asked Martin if he was willing to delay action on the FCC's pending EAS review "until we see what Congress does by the end of the year." If the commission moves ahead on its own, DeMint said, "We'll end up with another top-down, government-mandated system," and not a coordinated effort.

Martin said, "We feel it's important to have an EAS and that it be open to new technologies," but he said that he was willing to wait to resolve the issue.

The delay came as a surprise to broadcast engineers active in EAS.

Kneuer, meanwhile, had few questions directed at him. He serves as the deputy assistant secretary of commerce for communications and information and deputy administrator of NTIA, which he joined in 2003. Prior, Kneuer was a senior associate at the law firm of Piper Rudnick in Washington, doing regulatory and legislative representation for corporate clients in telecommunications, defense and transportation. He has also been executive director for government relations at the Industrial Telecommunications Association and an attorney-advisor in the Commercial Wireless Division of the FCC's Wireless Bureau.

NTIA will be responsible for developing interoperability among first responders and with overseeing the digital-to-analog converter-box program for the DTV transition.

The committee adjourned without taking a vote; Conrad Burns, R-Mont., who was chairing the second half of the meeting after the departure of Stevens, said the record would remain open for two weeks to allow senators to ask and receive written answers to additional questions from the nominees. ●



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NEWS WATCH

Clear Channel Radio Goes Mobile With Cingular

SAN ANTONIO Clear Channel Radio has developed cell phone radio programming.

It says the strategy extends its local station brands and expands the platforms to which the big company is distributing content.

The initiative kicked off with WHTZ(FM) in New York streaming live radio and new features to Cingular Wireless cell phones. Clear Channel Radio expects to launch similar programs on up to 100 more stations in the next 12 months.

Subscribers of Z100 Mobile can use their phones to listen to streamed and on-demand content including podcasts of celebrity interviews and popular segments. They can find title and artist of the last 10 songs played on-air; make a song request to Z100 and receive a text message alert 15 minutes before the song is played; get free station wallpapers for their phone; rate listener-submitted photos and obtain reports on local traffic.

DKNY Jeans is the first sponsor of Z100 Mobile; it is providing fashion tips as part of the mobile content package. Clear Channel is touting similar exclusive sponsorship opportunities across local markets for terms as short as one month.



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NEWS WATCH

Arbitron Tests 'Dual-Function' PPM

NEW YORK Arbitron believes it has figured a way around the problem of radio groups that don't want their stations to encode a Portable People Meter signal.

The audience research firm has added audio matching capability to its PPM and is field-testing that capability. The dual-function meter can detect the inaudible PPM codes and collect audio signatures for any radio station, which are later matched to signatures collected by an in-market monitoring system. The test involves calibrating listening estimates produced by audio matching to those produced by the PPM encoding system for the same stations.

With a software upgrade, the company also said, it remotely converted 50 "encode-only" portable meters to "dual-function" audience meters.

Philly Households Get 'Real' PPM

NEW YORK Arbitron also has begun installing its PPM system among Philadelphia-area consumers.

The firm is recruiting a panel of 2,040 consumers, ages 6 and older, to carry the

PPM. The Media Rating Council is auditing the process; when its report is completed, Arbitron will begin releasing PPM data from that market.

Arbitron has signed PPM contracts in Philly with Beasley Broadcasting, CBS Radio, Greater Media and WBEB(FM), representing a total of 14 stations that account for at least 60 percent of the radio revenue in the market, according to the firm, which is competing for the radio industry's electronics ratings business.

In addition, it has signed agreements with national advertising agencies that it says account for more than 90 percent of the national radio advertising dollars spent in Philadelphia.

The city was also the site of an early market trial for PPM in 2002-03.

Lowest Unit Charges Underway

WASHINGTON The lowest unit charge period continues until the general election scheduled for Tuesday, Nov. 7. The 60-day LUC period began Sept. 8.

In a memo, Garvey Schubert Barer reminded clients that broadcast stations must offer their best rate to candidates for public office, including federal, state and local races, for each daypart and class of time. Issue advertising and other non-candidate political advertising is not

entitled to the Lowest Unit Charge.

LUCs should be incorporated in a disclosure statement of all of the station's general and political advertising policies and rates, kept in the political folder in the local public file.

BMW Offers Clear Channel Traffic

SAN ANTONIO Clear Channel Radio signed BMW to carry its Total Traffic Network.

The broadcaster signed a multi-year agreement with BMW to provide traffic data as part of standard navigation systems offered on some 2007 models, including the X5, M5, M6 and the 3, 5 and 6 Series models.

The feature debuted on BMWs in September.

Clear Channel's Total Traffic Network serves 125 markets in the United States, Mexico and New Zealand. It delivers traffic data via in-car or portable navigation systems, broadcast media, wireless and Internet-based services.

New DRM Radios Displayed

AMSTERDAM Digital Radio Mondiale featured new radios at the International Broadcasting convention in September.

DRM's IBC display follows participation at the consumer electronics show IFA in Berlin, where STMicroelectronics, Kenwood and Fraunhofer presented a working prototype of a DRM receiver. Proponents said the prototype paves the way for development of a low-power, application-specific IC for DRM applications such as fixed and portable radios, car receivers, software receivers and PDAs.

A Morphy Richards DRM Radio, two prototype portable receivers by Himalaya (Power) Electronics Co., a W37 receiver by Starwaves GmbH and RadioScape's RS500TM DAB/DRM module were displayed.

Several RF suppliers showcased DRM equipment, including Harris, Nautel, Omnia, RIZ Transmitters, Digidia and Thomson.

RadioShack Widens NYC HD-R Rollout

NEW YORK RadioShack expanded its rollout of HD Radios in the New York area.

The company says growing customer demand for IBOC receivers mirrors the growth of HD-R content on New York stations. Approximately 20 digital signals are reaching listeners there.

RadioShack is offering New York metro customers the Boston Acoustics Receptor HD digital radio in stores and online for around \$300, with plans to offer additional models in the months ahead.

Back in May, the first national retailer to support the rollout began stocking the radios; we've reported the company planned to expand its rollout this fall. The first phase included all RadioShack stores in Dallas/Fort Worth and less than 20 pilot

stores in such markets as New York City, Los Angeles, Chicago, Philadelphia, Houston and Washington.

Approximately 250 RadioShack stores will take part in this expanded rollout. The company has 350 outlets in the area.

How The Shack Will Pitch The Radios

FORT WORTH, Texas RadioShack customers are exposed to in-store, online and point-of-purchase educational support backed with customized advertising running on HD Digital Radio Alliance-member stations.

"The best way to interest customers in HD digital radio is to allow them to listen to it in stores, see the type of information that is shown on the receiver's display device, and allow them to talk to knowledgeable, helpful sales associates who can actually answer their questions," stated Wes Lowzinski, RadioShack's senior vice president-general merchandise manager.

HD Digital Alliance President/CEO Peter Ferrara said New York area stations are supporting RadioShack with an on-air campaign.

SBE Election Completed

VERONA, N.Y. Chriss Scherer was elected to his second term as president of the SBE. His second term was to begin in late September, with induction during the SBE Annual Membership Meeting in Verona, N.Y.

Prior to serving as president of the 5,300-member organization this past year, he has served as national vice president and chairman of Chapters 59 in Kansas City and 70 in Cleveland.

Reelected were Vice President Clay Freinwald, Secretary Vincent A. Lopez and Treasurer Barry Thomas.

Elected to the board were Ralph Beaver, James T. Bernier Jr., Keith M. Kintner, Thomas R. Ray III, Christopher D. Tarr and Larry J. Wilkins.

Six other board members return.

News Roundup

MAJOR RECORD LABELS have developed a campus video aimed at college students about illegal downloads, to inform them of the right way to obtain music. The Recording Industry Association of America said it made the video in response to requests from campus officials.

NAUTEL has completed an expansion of its operations, increasing capacity by around 40 percent, the company said. It cites increased market demand for HD Radio and DRM transmission systems.

MIKE SAITO is now president of JVC Company of America and VP of JVC Americas Corp., effective Sept. 1. JVC makes HD Radios. Saito will be responsible for operations relating to JVC consumer products in the United States.



Armstrong Transmitter X-1000B

1KW HD Radio ready AM Transmitter for under \$10K

Built with dual hot-swappable 600 Watt RF modules capable of 150% modulation, X-1000B can bring that major market sound to your radio station. Engineered with the latest technological innovations, X-1000B offers high reliability, built-in redundancy and it is HD Radio ready.

Best of all, our customers tell us that the money they save running the X-1000B pays for itself with savings in electricity and

maintenance costs over an older transmitter...and as a bonus they get exceptional reliability and that major market sound for free.

But, don't take our word for it. Talk to our customers already on-the-air with the X-1000B. Call or email for a users list and decide for yourself why owning this transmitter is a no-brainer.



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TWOx12 has lots more benefits. Like Digital Dynamic EQ, for uniform caller audio despite less-than-perfect lines. Twin DSP-powered hybrids for quick, no-hassle conferencing. A unique Dual Studio Mode that lets you use your 12-line phone system like dual six-line systems for extra flexibility. And TWOx12 is the world's only talk show system that can work with either POTS or ISDN lines to deliver exceptional caller clarity. Impressive? You'd expect no less from the company that *invented* the digital broadcast hybrid.

Is TWOx12 the perfect union of word and deed? Thousands of broadcasters worldwide think so. Why not see for yourself?

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12 lines, two digital hybrids, and superior audio performance. Desktop Director controller features handset speakerphone and headset jack. Drop-in controls available for popular consoles.



New Call Controller has Status Symbols, DTMF pad and recorder controls (like Desktop Director), but lets talent use their favorite wireless phone or any standard handset for call screening.



Status Symbols show exactly what's what. Intuitive icons show calls locked on-the-air, which hybrid they're on, who's next in queue and more. So much better than a panel of blinking LEDs.



Assistant Producer enables talk show production via LAN or WAN. Status Symbols, Caller ID support, instant messaging and caller database are just a few benefits. Supports touchscreens, too.

Workbench

Radio World, October 11, 2006

Past columns are archived at www.rwonline.com/reference-room

Mickey, You'd Better Get the Mops

by John Bisset

Much of the East Coast endured torrential rains this year, followed by hurricane season.

In July, Nathan Chervek, assistant chief engineer at the New Hampshire Public Radio cluster in Concord, N.H., faced a storm like no other. After 12 inches of rain fell over the weekend, the walls in the basement were really weeping.

The cluster soon had its very own water park in the basement, as seen in Fig. 1. There were 1 to 3 inches of rain in the basement at one time or another.

The building has a sump pump, but Nathan discovered that its operation was erratic. It turns out the pump would pump faster than the water was flowing into the



Fig. 1: Cycle the sump pump to prevent flooding like this.

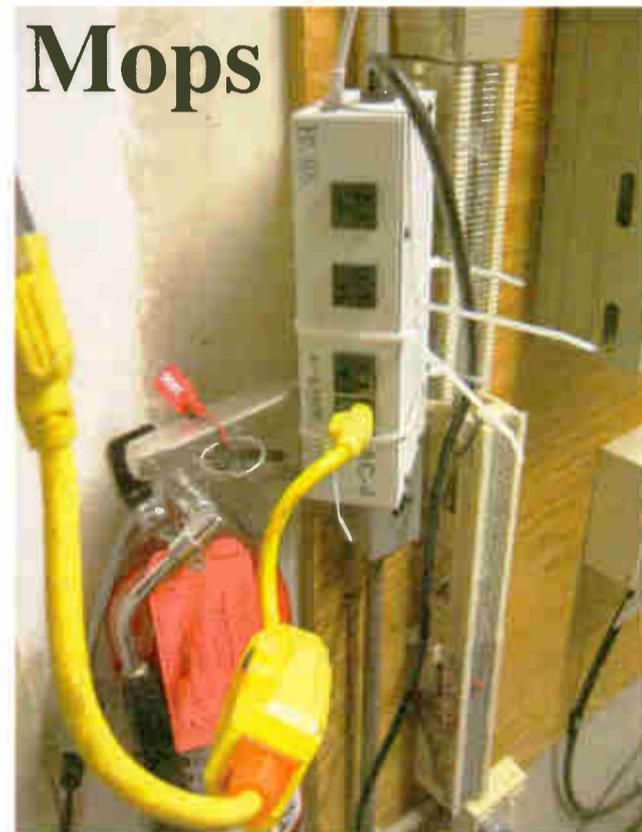
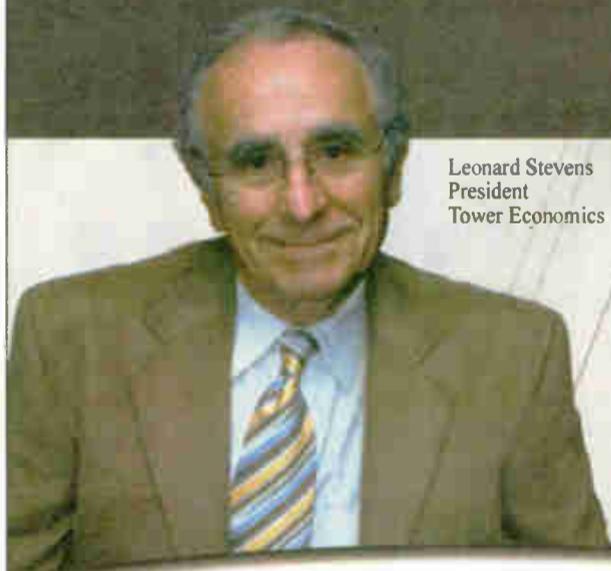


Fig. 2: Repurpose a Burk AC-4 and IO-8 to reset the pump for more reliable operation.

“Accountability is indispensable to us

when putting up a new tower. That's why we deal exclusively with Sabre for our broadcast towers. Their people have been in the industry for years, and have a broad-based knowledge on all types of towers. Their construction department handles turnkey projects with ease, eliminating the need to hire subcontractors and worry about who is taking responsibility. We choose Sabre because we like the people, the product and the pricing.”



Leonard Stevens
President
Tower Economics



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basement. When the water level got too low, the pump would vapor-lock and stop pumping.

A simple power cycle was all it took to get the pump back up and pumping. But although this cycling could be done manually, the staff was having problems with the pump locking up overnight.

The solution came in the form of a repurposed Burk AC-4 Remote Outlet Controller, seen in Fig. 2, and a spare IO-8 (which was replaced by a shiny new IO-16 to upgrade the main Burk system). The AC-4 provides a quick and easy control interface to AC outlets.



Fig. 3: This temporary lashup of the AC-4 ensures a dry basement.

Nathan programmed the “timed events” set to do a 20-second momentary “off” every half hour. That’s all it took to keep the pump running reliably, and ensure a dry basement. Interconnect of this temporary setup doesn’t have to be

fancy but it gets the job done.

Reach Nathan Chervek at nchervek@nhpr.org.

★★★

Dennis Snyder is the market engineer for the Hall Communications five-station cluster in Burlington, Vt. His boss is Vice President of Engineering Edd Monskie, who writes that Dennis noticed that once a tank of nitrogen started to get below half-full, the line pressure would rise.

Dennis investigated the problem and found it was due to the regulator. He found a two-stage regulator that worked better. It is manufactured by Harris Calorific Inc. (not the broadcast Harris) and is model number 9200NC.5psi.

The maximum output of this regulator is only 5 psi, so it is easy to regulate the line pressure to anything up to 5 pounds. This new regulator ensures the pressure never goes any higher than 5 psi for the life of the nitrogen tank.

Dennis says the cost of the regulator was covered easily by the savings in using less nitrogen, because the tanks last longer. Of course it does not mount to the wall like the one pictured in the Sept. 1 *Workbench* column; but Edd says each individual will have to decide which is the best choice for his or her site.

Edd Monskie can be reached at emonskie@hallradio.com. For an interesting tutorial on how single- and two-stage regulators operate, visit www.harris-calorific.com/2003/regulatorselectionguide.asp.

★★★

Workbench

► Continued from page 14

Fig. 4 might raise a few eyebrows, but maybe not, since it's a fiberglass ladder.

Fig. 5, on the other hand, should really get readers to sit up and take notice. A ladder in front of an STL dish is a good example of why your studio rooftop access needs to be controlled. Contractors roaming around on the roof can cause all kinds of damage to antennas and transmission line, not to mention themselves.

Show this picture to your building engineer and make sure that proper precautions are taken whenever anyone is on the roof. No names or calls — this could happen anywhere.



Fig. 4: A contractor's ladder looks innocent enough ...



Fig. 5: But in front of the STL dish?

John Bisset has worked as a chief engineer and contract engineer for 37 years. He is the northeast regional sales manager for Broadcast Electronics. Reach him at (571) 217-9386 or jbis-set@bdcast.com. Faxed submissions can be sent to (603) 472-4944. Submissions for this column are encouraged, and qualify for SBE recertification credit.

NAB: Don't Change FAA Part 77

The NAB told the FAA proposed changes to "navigable airspace" rules would significantly increase the number of mod notifications that must be filed by broadcasters and others, imposing a big burden without a public interest benefit.

Aviation regulators want to add notification requirements and obstruction standards for electromagnetic interference, among other changes; they cite safety considerations. The FAA proposes to require proponents to file a notice of proposed construction or alteration of structures near private use airports that have an FAA-approved instrument approach procedure.

The NAB cited the impact on VHF TV and FM frequencies, among others.

"Broadcasters would be required to file a notice with the FAA virtually every time a change is made to one of its structures or antennas, including changes in frequencies, increases in power, changes in the antenna mounting location, changes in antenna specifications and changes in antenna azimuth/bearing," NAB stated.

The FAA also proposes to extend the notification period from 30 to 60 days.

"The financial and operational burden placed on broadcasters as a result of the FAA's proposed modifications are almost certain to be severe," it wrote.

"In calculating the burden of the proposed information collection, the FAA must take into account the total time,

effort and financial resources expended by the industry to generate, maintain, retain and disclose or provide the requested information. This burden analysis thus must include the amount of time and resources expended in reviewing instructions, training personnel, completing and reviewing the collection of information, and adjusting internal policies to comply with the new procedures, among other things."

NAB said much of the information the FAA is seeking is already on file with the FCC. "Thus, rather than obtaining the necessary information directly from the licensee, the FAA could simply obtain it from the FCC. In previous situations, federal agencies have done just this."

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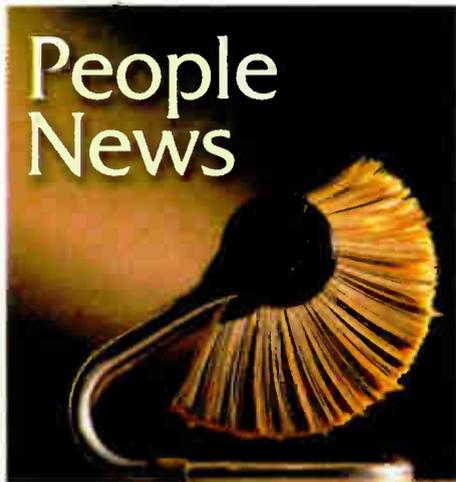
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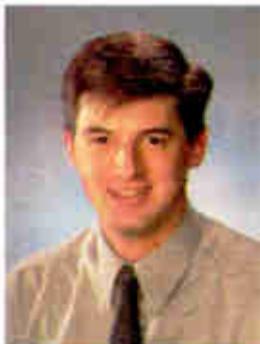
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Telos appointed **Marc Johnson** to the new position of Eastern region applications engineer. He became application engineer for Axia Audio earlier this year, making him part of the sales support process for Telos and Omnia as well. Earlier he



Marc Johnson

had been chief engineer of WEGL. Also, **Michael Uhl** was brought on and named to the new position of director of Western sales. He had been director of sales for Sierra Automated Systems. **Jim Armstrong** was named director of Eastern sales. He had been Eastern regional sales manager for Sierra Automated Systems. The company named **Ken Skok** to the new position of Western regional applications engineer.



Ken Skok



Kirk Harnack

He had been a sales representative for Broadcasters General Store. **Kirk Harnack** was appointed director of international business development. He had served as the company's U.S. director of sales since 2003. **Roxanne Walters Bain** was appointed to the Telos Systems International Sales Group. She had been marketing director for Ideaspace Inc. And Axia Audio named **Marty Sacks** to the new position of vice president. He

most recently served as vice president and COO of Streamline Publishing. ... Pannell formerly was district sales manager for the division, and is now national sales manager for RF and radio sys-

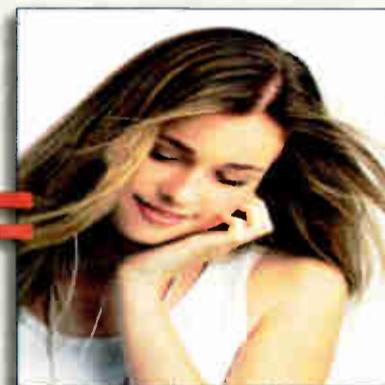


Marty Sacks

tems and consoles. Wood was named the new district sales manager for Radio Broadcast Systems, and is responsible for sales within Kentucky, Tennessee, Alabama, Mississippi and Missouri. His former title had been team leader, Broadcast Center. **Hicks** joins Harris Radio Broadcast Systems as senior manager for channel development. He has been with the company for 15 years, most recently as the channel/sales manager for its secure wireless local area networking product line.

Attendees of Harris' June 2006 HD Seminar include, first row, from left: Lindsey Collins and Robert Smith of Technet Systems; Hal Smith, independent contractor; Allen Sherrill, Curtis Media Group; Doc Daugherty, Harris senior tech writer and instructor. Second row: Chris Myers, corporate engineer, South Central Communications; Mike Powers, corporate engineer, New Northwest Broadcasting; Charles Dozier, director of engineering, Legend Communications. Third row: Mark Bisbee and Steve Vanni, Technet Systems; Paul R. Dadian, Harris Broadcast Division, Mid-Market Accounts.

PODCASTING?



The industry-standard **528E Voice Processor** from Symetrix, Inc. is rapidly becoming the most utilized piece of equipment for Podcasting.

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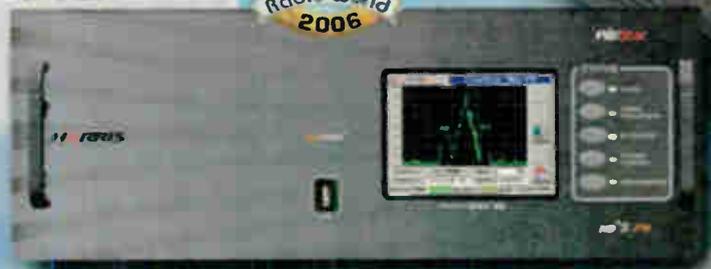
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SUPPLY SIDE

RAM Branches Out

Supply Side is a series of occasional interviews with industry suppliers — here, Ron Mitchell, president of RAM Broadcast Systems.

How did RAM come to be?

I went to Ryerson, now a university, in Toronto, studying engineering/electronics. In the evenings I worked as a DJ at CHFI Radio, Rogers Communications.

I started in the business in 1965 with McCurdy Radio, located in Toronto. Over the span of 10 years I was involved in manufacturing, test, engineering and sales. In 1975 I was promoted to vice president of McCurdy Radio Industries Inc., given ownership shares of the com-



Ron Mitchell

pany and transferred to Chicago.

In Chicago we built integrated systems for all the major broadcast groups. Our clients included ABC, CBS, Haftel, NBC, RKO, Westinghouse, etc.

In 1983 George McCurdy sold the company. I sold my shares as well, and started RAM Broadcast Systems as a systems integrator, equipment supplier and broadcast furniture manufacturer.

How has the competitive landscape changed?

Most of my competitors have either retired or died.

I think we are one of the few independent integrators in the field that build our own furniture and related wiring technologies. It was hard for me to transition from shielded grounded systems to utilizing Cat-5 wiring techniques. Now we do

it every day, no problem.

What are some typical contracts?

Most of our contracts are multi-studio packages. Recently we have built multi-studio packages for the Journal Broadcast Group in Omaha and Emmis Communications in Chicago. We are in the process of building 10 large studios for Spanish Broadcasting System in Miami, which includes a TOC. The entire facility will be built in our factory, then shipped to Miami. Installation time, four weeks.

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Tower-Style Leg Support is made of 1-inch sections of tubular steel braced with 1/4-inch supports. 'We use them everywhere,' Mitchell said. Another popular option is an articulated mount for a flat-screen monitor.

We also work with Motorola's engineering team at their headquarters in Schaumburg, Ill., and build test beds and RF trays for cell phone test areas.

Lately we have been contacted by a country in Africa to design and construct a satellite uplink with multiple downlinks including FM transmitters at each downlink site.

Describe your business operation.

We're based in Wauconda, Illinois, a suburb of Chicago. We have four full-time and six part-time employees; and a pool of contractors as needed.

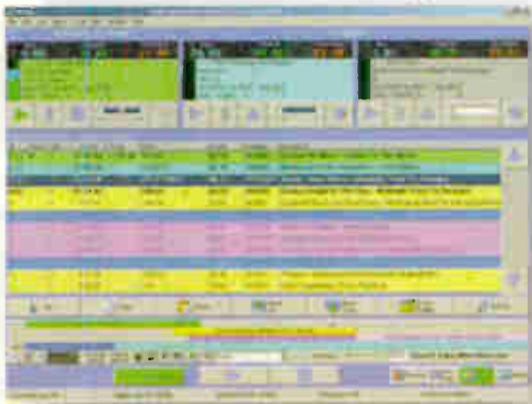
We utilize 12,000 square feet of space — 6,000 square feet for woodworking and 6,000 for assembly and warehouse. Our custom woodshop manufactures both solid and laminated tops. We manufacture our own leg supports and desk top options. 

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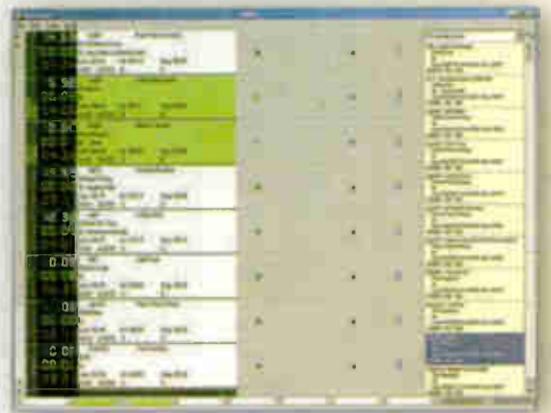
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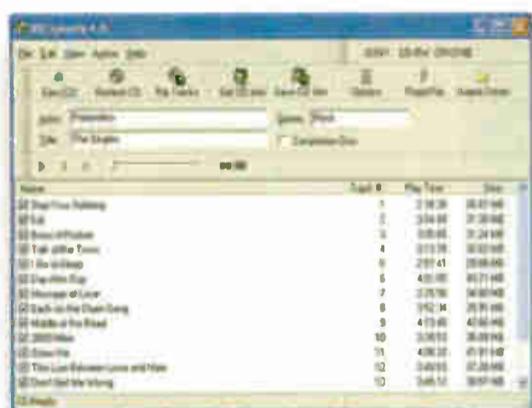
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WHO'S BUYING WHAT?

BE 'Cowboys Up' With 4MX

Broadcast Electronics shipped a 4MX 100 kW medium-wave transmitter to Rádio Nacional de Angola; the supplier said this was the first in the 4MX series at this power level.

RNA purchased the transmitter as part of a larger contract. Seratel, a BE rep in Spain, is supplying the transmitters for the state-run broadcaster, which operates 49 stations in Angola, Africa.

Separately, employees at BE's plant in Quincy, Ill.,



recently took part in a celebration saluting their contribution to the 4MX medium-wave series and noting the patent approval of the modulation technology. Shown is Jerry Westberg, principal engineer on the project. The event had a cowboy theme in honor of KILE(AM) in Houston, the first station to receive a BE 4MX 50 kW transmitter.

This spring the manufacturer added a 25 kW transmitter based on the 4MX medium-wave digital transmission technology, the 4MX 25 kW.

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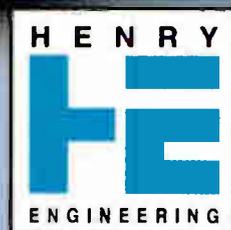
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PEOPLE NEWS

Harris Corp. promoted three employees within the sales team of its Radio Broadcast Systems business unit: **Chris Pannell**, **Garrett Wood** and **Wes Hicks**.

Sierra Automated Systems announced that **Cam Eicher** has joined the company as director of sales. He had previously held the same position with Logitek Electronic Systems.

The **Museum of Radio and Technology** was

to induct 61 charter members into the West Virginia Broadcasting Hall of Fame at a ceremony on Sept. 16 in Huntington, W.Va. Engineer **Noel Richardson** of West Virginia Radio Corp. is among them.

Other inductees include **Al Saley**, WKAZ(AM), WHMS(AM), WCHS(AM); **Bill Becker and Martha Jane**, WVOW(AM-FM); **Bud Burka**, WTIP(AM), WPAR(AM); **Samuel Warren "Cap" Caplinger**, Andrew "Andy" Patterson and **Flip Strickland ("Cap Andy and Flip")**, WSAZ(AM), WCHS(AM) and WWVA(AM); **Capt. John A. Kennedy**, founder, West Virginia Radio Network; **Connie B. Gay**, WTCR(AM); **Dale Miller**, WAJR(AM), WVAQ(FM); **Ernie Saunders**, WCHS(AM); **Gene Morehouse**, WJLS(AM); **George Smith**, WWVA(AM); **Louis Marshall "Grandpa" Jones**, WWVA(AM), WMMN(AM); **Gus Zaharris**, founder, WTIP(AM); **Herbert Morrison**, WMMN(AM), WLS(AM); **Hugh McPherson**, WCHS(AM), WTIP(AM) and West Virginia Public Radio; **Jack Flemming**, WAJR(AM); **Jane Hobson**, WSAZ(AM); **Joe Farris**, WGKV(AM), WCHS(AM); **John Stroebel**, founded WWVA(AM); **The Shott Family**, WHIS(AM); **Mel Burka**, WTIP(AM) and WPAR(AM); **Nick Fantasia, Sr.**, WTCS(AM); **Noah Adams**, WIRO(AM), WCMF(FM) and NPR's "All Things Considered"; **Paul Howard**, WCHS(AM); **Pete Stenger**, WSAZ(AM); **Ross Felton**, WWVA(AM); **Shirley Annand**, WTIP(AM) women's director; **George "Sleepy" Jeffers**, WTIP(AM), WCHS(AM) and WCHS-TV; **Tony Gonzalez**, WWNR(AM), WTNJ(FM); and **Walter Fredericks**, founder, WOBU(AM), later known as WCHS(AM).

Cox Radio appointed **Susan Larkin** vice president and general manager of WBDO(AM) and WWKA(FM), serving the Orlando, Fla., market. She joined the company from ABC-Disney's KQRS(FM) in Minneapolis, where she served as general sales manager.

Joanne Hill was named vice president of marketing for CBS Radio. She had been the director of marketing since 2005.



Garrett Wood



Wes Hicks



Eventide BD600E Broadcast Audio Stereo Delay Eventide

Eventide's BD600 profanity delay adds more delay protection, improves fidelity, and expands remote options, while maintaining the user interface and yellow "DUMP" button familiar to all radio engineers. Featuring 80 seconds of delay, 24-bit digital and analog I/O, plus a host of features, the BD600 is the world standard!

Now, the new BD600E model allows you to connect remote buttons to operate the BD600E functions – desirable for more sophisticated automated broadcast chains or program originators. Sixteen bipolar opto-isolated inputs may be configured to drive BD600E functions and general-purpose delay inputs. Sixteen open-collector outputs may be configured to output BD600E status indicators or to pass through delayed versions of the inputs. An RS-232 output provides a delayed version of the input, useful for driving a time display or for other control purposes.

BD600E Delay with extended remote I/Os List \$3,795.00
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FEATURES:

- Dynamic element with neodymium magnet structure
- End-fire cardioid pattern; large aluminum diaphragm
- Wide frequency response; natural articulation
- Anodized champagne matte finish

PR40 List \$375.00 **LowestPrice only \$325!**

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FEATURES:

- Dual, high-performance digital hybrids – 6- or 12-line system
- Screener Mode simplifies screening and queuing
- Web browser call screening and control
- Automatically answers calls with custom message and puts them on hold
- Buttons designate next caller on air and activate external recorder or delay
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- Aux DB-9 control output, momentary or latching

STAC6 6-line phone system List \$3,200.00
STAC12 12-line phone system List \$3,900.00



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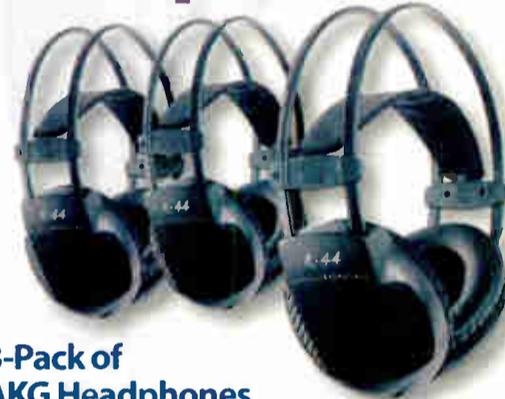
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MILE STONES

Gates Built a 1 kW Classic

by Charles S. Fitch

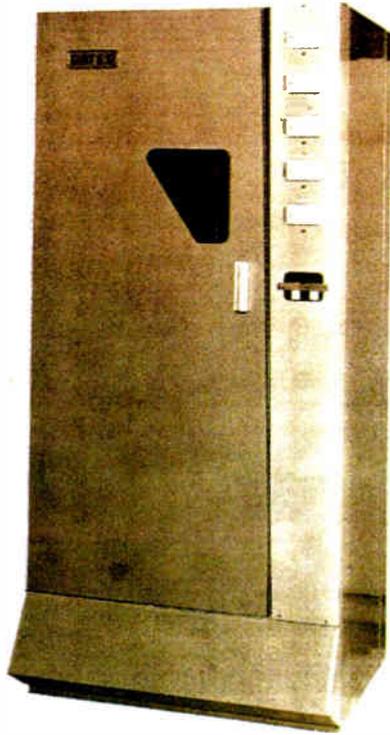
Even at this late date, nearly every cluster of stations has an AM station. There, we often can find at least one classic 1 kW transmitter.

Many of these stalwarts are from the generation 1950 through 1980, when tubes ruled the roost.

When you study Rocketry 101 in college, you are taught that if you want the rocket to take off for certain once, you need to design and construct it to take off a thousand times. Similarly, if manufacturers wanted a 1 kW rig to last until at least to the end of the warranty, they had to design and build the box to last at least a decade.

Most succeeded far beyond their expectations. Many of these transmitters remain in main and standby service even now. The surviving silent sentinels are a tribute to those who made them and maintained them over the years.

As we've mentioned in a previous profile of the Bauer 707, tube manufacturers offered mainly two power tube choices for 1 kW: the 4-400 tetrode and the 833 triode. The Bauer was a 4-400 unit, so let's look at an 833 box this time, the Gates BC-1.



In appearance high-tech for its time, the sleek Gates BC-1T was styled to compete against the RCA 'New Look' cabinetry.

Gates made two all-tube models in this period, the BC-1G and the BC-1T. The company's idea was that a new transmitter was a major capital investment for even a medium-sized station, which might be able to afford only one. Keeping that rig on the air was critical, so ease and speed of service was a major concern. To facilitate this, the major subassemblies of modulator and RF final swung out from the sidewalls to increase access to components.

A dummy load, this time made out of discrete power resistors, was built onto the wall of the transmitter and in the exhaust airflow for cooling.

For the portion of the price the design represents, the quality and reliability of the final product are extraordinary.

A designer spends little or no time reviewing aspects of the product that are right, focusing instead on what is having difficulty or needs improvement. That's the only explanation for the nearly universal low-voltage transformer failure in these Gates units.

Apparently the transformer is running

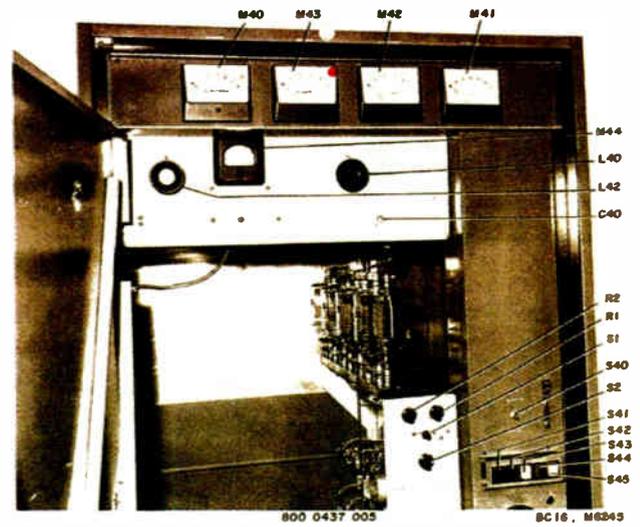


Illustration from the BC-1G instruction book shows the perforated front screen removed. The assembly on the right swung into the void between it and the dummy, allowing easy front and back access.

the 6BG6 pentode. The manufacturer viewed this as a more readily available, TV repair shop-type item; it also was notably less expensive than an 807. The 6BG6 was used as a horizontal driver in many big-screen black-and-white TV sets.

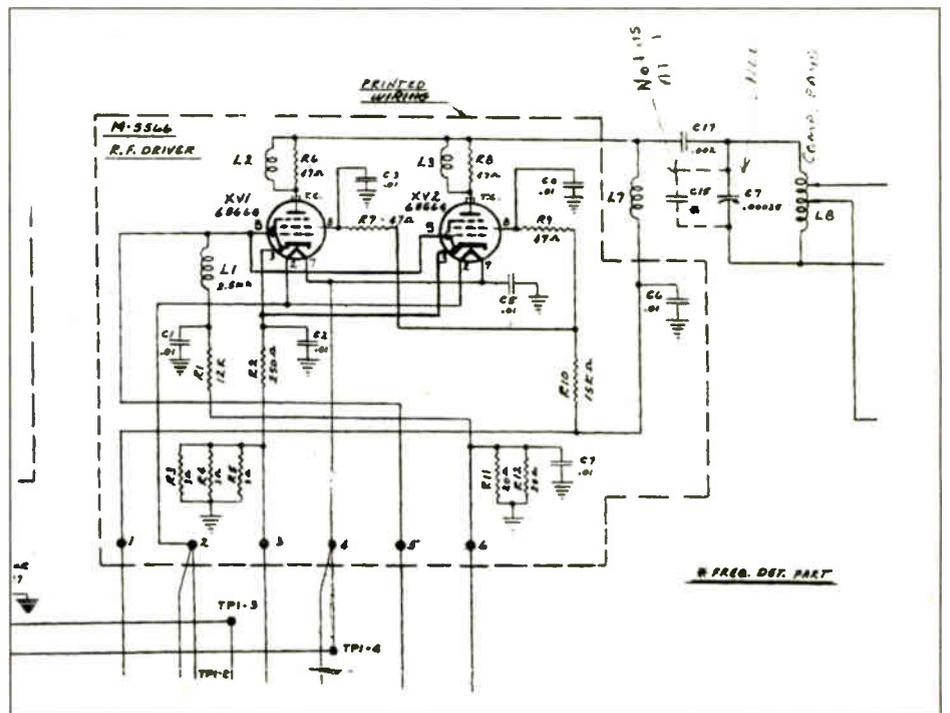
The 1G mainly was wired discrete, point to point, whereas the 1T had several sub-assembly units with printed circuit boards.

Folks who know tell us the Gates BC 1T and G were favorites in their day, out-selling the competition of the cost-competitive Bauer 707 and the more expensive RCA and Collins units. (The BC-1T listed at \$5,500 against the Bauer 707 assembled price of \$4,950.)



All in One All in Hand

Photo made in Paris Hotel Grenoble, France 2006 Link-to-Business



The cost-effective and readily available 6BG6 tube was used in the 1T. In this case two are paralleled for use as an RF driver. The dashed area is accommodated on a printed circuit board.

well up its current curve. It was durable and reliable when all the filter components were correct; but the transformer failed as soon as the input choke shorted, upping the current (overall the circuit was lower-resistance, hence higher-current).

One should not complain about a problem that occurs years after purchase; but almost like clockwork, after eight years you'd have new doorstops on hand, because you had to replace the transformer and choke.

The two transmitter models were similar in circuitry concepts, but there were notable distinctions.

The BC-1G had 807 tubes in many of the low-level stages, where the 1T used

Many of us in the industry had our modest beginnings in the great outback of America, where we were able to make mistakes without causing too much trouble. Almost universally, we remember a 1 kW AM transmitter as part of the story. Like the car in which you learned to drive, or the first plane you learned to fly in or your first serious love affair, you never lose that tender feeling for your first rig.

Please send along your Gates or any 1 kW stories and share your memories. Write to radioworld@imaspub.com.

The author learned to drive in a 1960 Morris Minor sedan and to fly in a Cessna 152 and says he'll never forget them.

UAX220-Mic

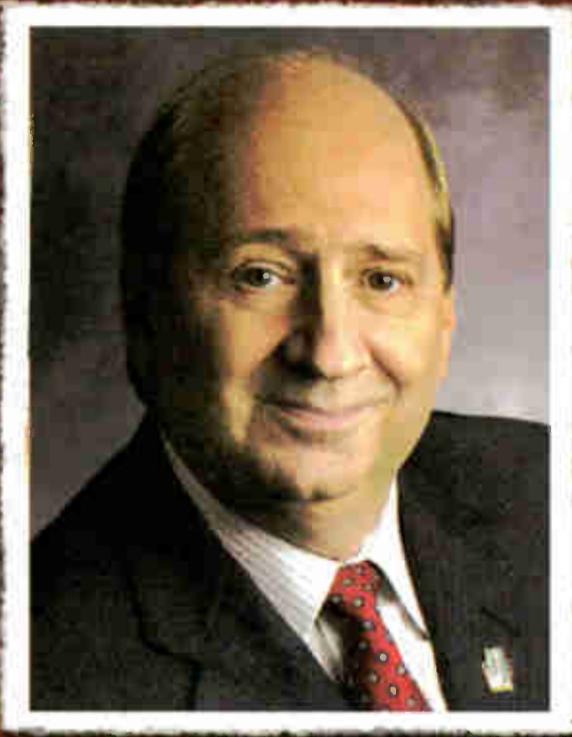
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You think we have a lot to say? You should hear our clients.

When we asked our clients which Element features they liked best — well, you see the results. And this is the *edited* version. (Good thing we bought two pages.)

Go (con)figure • The folks at MPR say they really love being able to configure their Elements and keep tabs on their entire Axia network using standard Web browsers. You can set up and administer an entire building full of consoles from the comfort of your own office (where there's plenty of Cheetos and Pepsi). Put an Internet gateway in your Axia network and you can even log into Element remotely, from home or anywhere else there's a Net connection. Great for handling those 6 P.M. Sunday "help me!" phone calls from the new weekend jock.

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

Perfect timing • You can't have too much time. That's why Element's control display contains **four different chronometers** to help keep talent in sync: a digital time-of-day readout that you can slave to an NTP (Network Time Protocol) server, an elapsed-time event timer, a countdown timer talent can set for any interval they choose... and there's also that big, honkin' analog clock right in the center of the screen (Big Ben chimes not included). We wanted to make it even bigger, but our screen designers charge us by the pixel.

Where's Waldo? • Hide-and-seek is a pretty fun game. But not when you're in a hurry, and definitely not when you're on the air. So every Element fader comes with a big, **bold 10-character LED display** right above it to show talent, at a glance, exactly what source is assigned to that fader. If it's music from a digital playout system provided by one of our partners, the display can even show the title or artist of the song that's active. Talent tells us that these displays are at the perfect angle for either sit-down or stand-up studios.

Black velvet • What's 100 mm. long, silky smooth, goes up and down all day and **lasts forever**? Our super-quality conductive-plastic faders, of course. (You have a filthy mind, mister. Shame on you.) We sourced the most durable, reliable, premium faders and switches for Element. And we added extra touches, like the custom-molded plastic bezels that protect on/off switches from accidental activation and impact. Because we know how rough jocks can be on equipment — some of us were (jocks, not rough). And because we also know there's nothing more embarrassing than a sudden case of *broadcastus interruptus*.

Audio cards • Well, *um*, there actually aren't any. Not in Element, or anywhere else in an Axia network. Why not? Think about this: your production guy spends hours crafting exciting, finely-tuned bits of broadcast magic, only to filter them through a card sitting in a noisy, RF-filled PC. It's like washing a wedding dress in the Hudson River. Not only that, broadcast audio cards are *expensive*. And they only work in *PCI slots*... how many of those are you seeing on new PCs? The **Axia IP-Audio Driver** installs on any Windows® PC to send and receive pure digital audio right through the PC's Ethernet port — no sound card required. You get better, cleaner PC audio that's sharable right to the network. And you save tons of cash on sound cards, and on the audio inputs you would have needed for that PC card audio — more than enough to buy that cool new network tester you've been lusting after.

Options • Clients say they love Element's uncluttered worksurface. We kept it clean by placing an "Options" key over each fader to give instant access to all the advanced goodies. It makes customizing settings easier than selling fudge cake to Dom DeLuise.

Great Phones • We wanted the phones on Element to work like an extension of the board-ops themselves. Unfortunately, talent objected to having Ethernet ports implanted in their skulls, so we came up with the next best thing. With Element, jocks never have to take their eyes or hands off the board to use the phones. Element works with any phone system, but it really clicks with the Telos Series 2101, TWOx12, or the new NX-12, which connects four hybrids plus control with a *single Ethernet cable*. Status Symbols™ (those cool little information icons) tell talent at a glance whether a line is in use, busy, pre-screened, locked on-air, etc. You can even dial the phone right from the board using the integrated keypad.

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

Fried Chicken

Conductive aluminum bullnose is connected to a 40-kilovolt storage capacitor* that can be activated with a GPIO closure. Set up a hotline remote trigger for the PD to give the jocks a little "positive feedback!"

Shown: 20-position Element, nicely equipped. \$16,557.00 US MSRP. Not shown but available: 4-, 8-, 12-, 16-, 24- and 28-position Element. Dual exhaust and whitewalls optional at extra cost.

Meter reader • LED program meters? How very 1990's. Element's SVGA display has lots of room for timers, meters, annunciators (*there's a five-dollar word*) and more — enough to show meters for all four main buses at once. Reboot the console to 5.1 surround mode and the light show is even cooler. Any more bling and those fast 'n furious types'll want it for their dashboards.

Status Symbols • There are those icons again. (We're in love with icons. It's the Telos way.) These Status Symbols alert talent to phone lines ringing, mix-minuses minusing, talkback channels talking, etc. They can even display fader numbers, like you see here. Just one more way Element makes it easy for talent to do a fast, clean show.

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

Swap meet • Element modules are easy to hot-swap. Remove two screws and a cable or two, and they're out. In fact, you can hot-swap the **entire console** — unplug it and the audio keeps going, because mixing is done in an external Studio Engine.

Can I play with your knobs? • Twist 'em, push 'em, make 'em click. Element comes standard with some pretty powerful production features, like per-fader EQ, voice processing and aux sends and returns. Context-sensitive SoftKnobs let production gurus easily tweak these settings, while simultaneously satisfying their tactile fixations. (Don't worry: for on-air use, you can turn off access to all that EQ stuff.)

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

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

Coffee? • No console is spill-proof, but Element is easy to service and has no motherboard to damage in the event of stupidity.

It's already in there • Element comes standard with a lot of cool goodies you'd pay extra for with other consoles. Like custom voice processing by Omnia™ that lets you quickly build and capture compression, noise gating and de-essing combinations for **each and every jock** that load automatically when they recall their personal Show Profiles. (There's even a secret "Big Balls" setting that makes wimpy interns sound like John Leader. A fifth of Chivas to the first guy who finds it.)

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

Mixmaster • Does the thought of constructing a complicated mix-minus on-the-fly bring a big grin to your face? If so, you're excused (Masochism 101 is down the hall). But if you hate building mix-minuses manually as much as we do, you'll love the fact that Element does them for you. No more using all your buses for a four-person call-in; no more scrambling to set up clean feeds for last-minute interviews. When you put remote codecs or phone calls on-the-air, Element **automagically** figures out who should hear what and gives it to 'em — as many custom mix-minuses as you have faders.

Push my buttons • You can program these custom button panels with any macro you want, from recorder start/stop to one-touch activation of complex routing switches and scene changes using PathfinderPC™ software. You can probably even program one to start the coffee machine (black, no sugar; thank you).



www.AxiaAudio.com

Radio's Sustainability Sweepstakes

The Fate of Today's Emerging Technologies Depends On Risk Management, Diversification and Scalability

Our anonymous colleague Guy Wire raised some eyebrows recently on *radioworld.com* when he suggested that terrestrial radio might buy up satellite radio interests. Without diving into analysis of this idea, one basic point Guy made in the process is worth repeating: Risk is always mitigated by spreading it out across multiple stakeholders.

This could be critical to the sustainability of any next-gen radio ventures, and it is a key differentiator between satellite and terrestrial radio's prospects.

Of course, satellite radio is backed by a lot of individual investors and shareholders, but as far as those folks (and Wall Street in general) are concerned, there are just two metrics that sum up the health of an entire industry: XMSR and SIRI. Terrestrial radio is far more diversified, in both real and market-cap terms, and the companies that represent its overall condition are currently much more sound and stable than either of the satellite radio operators today.

Granted, it's been tough going lately

for satellite radio, particularly for XM, given lawsuits filed against it by its own shareholders and by the RIAA, investigations by the FTC and the SEC, and a very public board-member resignation. These are all piled atop issues affecting both services, like pending legislation that would "clarify" sat-radio's music licensing terms (and perhaps result in higher royalty fees), alleged FCC Part 15 violations in receivers, slowing subscriber growth rates and the aforementioned stocks' recent performance.

Another relevant detail is worth recollection, from an earlier satellite-based market failure: the Iridium LEOsat system. What saved its parent Motorola

The Big Picture

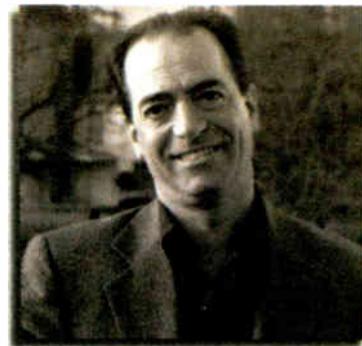


Photo: Gary Hayes, BBC

by Skip Pizzi

from going down with the spaceships was the forced diversification of Iridium holdings among many other telcos and national post/telecom operators, with whom Motorola had to cut deals before they would allow Iridium to offer service in their territories. Motorola probably wasn't happy about having to slice the pie so many ways when they signed the deals, but they were certainly relieved at the end of the day when that same pie allowed the company to only bear a fraction of the losses. No such luck for satellite radio, should it come to a similar fate.

Of course, it also helped that Motorola had plenty of other revenue-producing business to help it weather the failure — another big difference between it and the satellite radio companies.

Share the wealth (or pain)

Now consider the very different context in which IBOC is being deployed. The technology's highly distributed debt load and scalable/staged implementation among hundreds of separate radio operations puts no operation at risk. And, should the system fail to reach critical mass, its owners still have a viable ongoing business.

Could the real future of digital radio be online?

IBOC also gives terrestrial broadcasters the choice of whether to opt for a qualitative or a quantitative improvement over legacy service. The downside is that either will only be realized with the purchase of a new receiver. This is where the generally adequate quality of FM works against IBOC, but where multicasting can help. Either way, however, the ROI on IBOC conversion will be long in coming.

Satellite radio also requires a new hardware purchase, but at least the value proposition is fairly clear. A hundred new channels available everywhere is likely to get your attention. The equivalent value proposition on buying a new IBOC receiver is largely dependent on how much the listener likes the stations already available in the market. On the other hand, there's no churn with IBOC, while there can be a significant amount with satellite radio. It's one thing to think

See SUSTAIN, page 27 ▶

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Sustain

► Continued from page 26
 you're getting 100 stations for \$12.95 a month, but after using it for a while and finding you're only listening to three or four stations, you might just redo the math and let that subscription expire — especially if it was a promotional free-trial period.

The third option

Often the discussion ends there; but let's extend it to consider Internet radio in the same analysis.

Yes, Internet radio also requires a subscription to broadband Internet service, but this generally flat rate fee is also spread across many other uses. In fact, the use of broadband for streaming media generally is viewed as a bonus feature, since most users are getting the service primarily for other uses. Combine this with the fact that most Internet radio services are free and you have an option that is relatively close to terrestrial radio in terms of cost/benefit to the listener.

Clearly the radio industry has a lot riding on the promise of the wireless Internet.

Broadband Internet and its terminal equipment are already widely deployed and growing fast, so the ROI to any service provider is not something you have to wait years to see (if ever). Results are quickly apparent and a continuing upward trend is almost guaranteed. In this respect, Internet radio exceeds the value of either satellite radio or IBOC to its investors.

The cost burdens and risks are even more scalable and well distributed with Internet radio, since broadcasters generally don't own the delivery infrastructure — they just rent it from third parties. Of course the paradigm of paying per listener is a foreign experience for broadcasters, but it works both ways: If you don't have a lot of listeners online, you pay less. Compare this to IBOC, where conversion costs are fixed regardless of if and when any listeners actually tune in.

Perhaps even more appealing to broadcasters is that both high quality and unlimited quantity of new service are possible online, and there's no tradeoff between them, as there is with IBOC. Want more bits in the payload? Just sign up and pay the bill to your hosting service.

Of course, the one big downside with Internet radio is its lack of portability ... today. If Internet radio does indeed become widely and cheaply available on mobile and portable platforms, however, as many observers forecast, it would appear to be the winner of the sustainability sweepstakes. So could the real future of digital radio be online? Clearly the radio industry has a lot riding on the promise of the wireless Internet.

And what exactly will that world be like? More about that next time.

Skip Pizzi is contributing editor of Radio World.

WHO'S BUYING WHAT?

KRAZ(FM) — KRAZy Country 105.9 in Santa Barbara/Santa Maria, Calif. — recently installed a Klotz Digital Aeon audio networking console, replacing an older analog mixer in the air studio. The station airs HD Radio. The general manager of the Knight Broadcasting station is Shawn Knight. ...

Digital Juke Box Software said **Radio Oklahoma Networks** purchased a license of The Radio Spider software for its network affiliates to simplify downloading of its 50 radio programs.

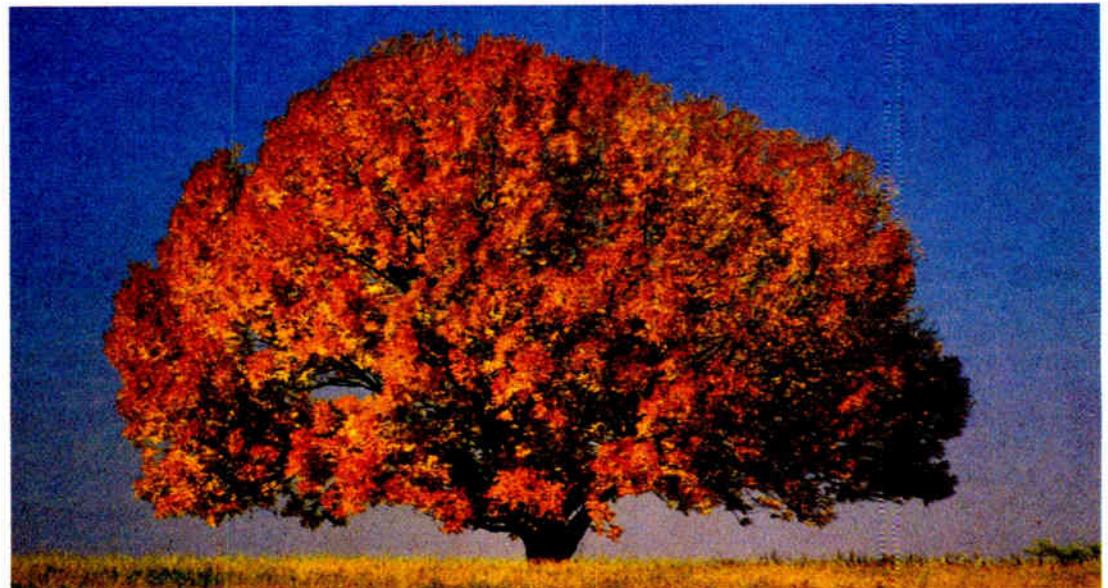
The software is from James Barcus of www.digitaljukebox.com; it allows stations to automate the downloading of programs from program suppliers that place audio on the Internet for downloading. A free trial of the software is available.

Gefell says its M930 was chosen from among 30 contenders in a test for a new standard on-air broadcast mic at the **Canadian Broadcast Corp.** in Montreal. The M930 is a 48V powered compact cardioid condenser. CBC is using 25 of the mics with more planned.

More Who's Buying What news, page 29.



Stefan 'Carp' Carpenter, PD of KRAZy Country 105.9, works with the Klotz Aeon.



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TECHNOLOGY FOR MANAGERS

T1 for the Digital Broadcaster

The Challenges of STL for HD Radio Are Met Easily With T1-Based Systems

by Ted Nahil

The author is broadcast channel sales manager of Harris Networking Solutions. This is the last in a three-part series.

In the first two installments of this series on T1 STL systems for the broadcaster, which appeared in the previous two issues of Radio World, we reviewed the basics of T1 service and discussed specific applications of T1 STL systems for today's radio broadcast facility. In this final installment we'll look specifically at HD Radio requirements and how to meet them using a T1-based STL system.

Location, location

The most critical decision you will make that will dictate how much STL bandwidth you need for an HD Radio implementation is where to locate your HD Radio equipment. For the sake of this article we will concentrate our discussion around a complete Exgine system, which includes an Importer, an Exporter and an Exgine exciter.

Although the details of how this equipment operates and connects together are beyond the scope of this article, we will need to address some basic requirements in order to make this type of HD Radio system work.

Specifically, for an HD and HD-2 system, we have the following minimum audio and data requirements:

- ✓ Main Program Service (MPS) audio to Exporter;
- ✓ Main Program Service PAD (program associated data);
- ✓ Supplemental Program Service (SPS) audio to Importer;
- ✓ Supplemental Program Service PAD.

Depending on where we locate all the equipment and the format of the PAD data, we will most likely have the need to transport some IP data from the studio to the transmitter as well. Let's look at what

these devices' audio feeds) at the transmitter site, we need a considerable amount of bandwidth for our audio feeds. The HD Radio equipment audio inputs require 20 kHz audio sampled at 44.1 kilo-samples per second (ksps). We need two stereo 20 kHz audio feeds, one for the Importer, one for the Exporter.

We can move this much audio and data

Card Type	Time Slot Use Out	Time Slot Use In	Description of Service
Compressed Audio	6	0	20 kHz MPS audio
Compressed Audio	6	0	20 kHz SPS audio
RS-232 Data	1	1	Serial channels for PAD and R/C
Compressed Audio	0	6	MPS Channel monitor return
Compressed Audio	0	6	SPS Channel monitor return
Compressed Audio	4	0	15 kHz stereo for aux transmitter
Compressed Audio	0	4	15 kHz dual mono for RPUs
LAN Extension	6	6	LAN Extension at 384 kilobits
OPX Extension	1	1	Telco circuit to/from Tx site
TOTAL USE:	24	24	

Fig. 1: Sample T1 Compressed STL

Card Type	Time Slot Use Out	Time Slot Use In	Description of Service
Linear Audio	23	0	20 kHz MPS linear audio
Linear Audio	0	23	MPS Channel monitor return
Compressed Audio	6	0	20 kHz SPS audio
Compressed Audio	0	6	SPS Channel monitor return
LAN Extension	2	2	LAN Extension at 128 kilobits
TOTAL USE:	31	31	

Fig. 2: Sample E1 Linear and Compressed STL

Card Type	Time Slot Use Out	Time Slot Use In	Description of Service
Linear Audio	17	0	15 kHz analog Tx linear audio
Linear Audio	0	17	15 kHz monitor return
RS-232 Data	1	1	Serial channels for PAD and R/C
OPX Extension	1	1	Telco circuit to/from Tx site
1 st LAN Extension	3	3	HD only LAN at 192 kilobits
2 nd LAN Extension	2	2	Second LAN at 128 kilobits
TOTAL USE:	24	24	

Fig. 3: Sample T1 Linear STL with HD Equipment Located at Studio

bandwidth requirements exist based on where we locate equipment and how we plan to deliver our audio and data to the transmitter site.

Most STL bandwidth

If we choose to locate all of our HD Radio equipment (Importer, Exporter, and the processing equipment for each of

on a T1 circuit if both stereo audio channels are compressed. This is an acceptable alternative and this approach has been adopted by a large broadcasting group: Both the main HD and SPS HD-2 audio is delivered to the transmitter in compressed format, 20 kHz, 16-bit. Using the Enhanced apt-X algorithm and a Harris Intraplex STLHDPlus system, each stereo channel uses 384 kilobits (six time slots). Two stereo channels use half the T1, leaving plenty of room for other

More Info

Useful sources for more information include the Web sites of Ibiqity Digital (www.ibiqity.com) for the latest technical specifications including application notes on proper networking practices; Harris Broadcast (www.broadcast.harris.com) for information on HD systems, white papers, articles and other sources of technical information, including Intraplex STL systems; Moseley (www.moseleysb.com) for information on RF-based STL systems; and your transmitter manufacturer for the latest information on their implementation of HD Radio.

one telephone extension and a 384 kilobit LAN circuit.

If the STL operates on a spread-spectrum radio link and uses E1 bandwidth, it is possible to transport one linear 20 kHz stereo channel and one compressed 20 kHz stereo channel. Since E1 systems have 31 time slots available, then using 23 for linear audio and six for compressed audio still leaves 128 kilobits of bandwidth available for other uses. Fig. 2 illustrates an E1-based system using linear audio cards for the MPS audio feed and monitor feed back, compressed audio cards for the SPS audio feed out and monitor feed back and a LAN circuit for PAD and other data operating at 128 kilobits.

Note that we could add other services if we used the compressed cards in the 15 kHz mode since we'd gain an additional 128 kilobits of bandwidth each way.

Least STL bandwidth

Ultimately we need to feed the input of the HD Exgine exciter with a UDP data stream and feed the analog portion of the transmission system with 15 kHz stereo audio. This analog audio, which can be AES or discrete, depending on the analog exciter in use, also needs to be delayed either using the processing equipment, the Exporter or an external delay timed to the Exporter's clock.

When we locate the Importer and

By locating the HD equipment at the studio, we have 'left over' bandwidth on a T1 circuit that can be used for OPX extensions, serial data, low-quality audio circuits or even a second LAN extension.

data, voice or telephone service, as well as return audio and other services.

It is important to note that there is no T1 system that has sufficient bandwidth to move two linear stereo audio channels from the studio to the transmitter. There is also no T1 system available that can accommodate one linear, stereo 20 kHz channel and a second compressed stereo 20 kHz channel.

Fig. 1 illustrates a fully loaded T1 STL for MPS and SPS 20 kHz audio, 15 kHz audio out for a back-up transmitter, 15 kHz audio back from RPU receivers, RS-232 data for PAD and remote controls,

Exporter, and the associated processing for those devices, at the studio, we need the least amount of STL bandwidth to implement HD (including one or two supplemental program service, or SPS, channels). We need to feed the analog portion of the transmission system 15 kHz (delayed) audio. There is no need to feed any higher quality audio since the frequency response of the analog transmission equipment is limited to 15 kHz.

We also need to transport the UDP data stream from the Exporter to the Exgine exciter at the transmitter site.

See T1, page 29 ►

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T1

► Continued from page 28

This UDP data stream contains the *complete* HD signal: main channel audio, supplement channel audio and all the program associated data (PAD) for these channels. We need an IP link of at least 192 kilobits for this data.

All of this audio and data easily fits on a T1 circuit. In fact, Fig. 3 illustrates some other services that can accompany the HD audio and data. You can see that by locating the HD equipment at the studio, we have "left over" bandwidth on a T1 circuit that can be used for OPX extensions, serial data, low-quality audio circuits (for IFB, two-way radio, EAS monitoring or other duplex audio applications) or even a second LAN extension so that the HD UDP stream is completely isolated from any other station LAN function.

Conclusion

The challenges of HD Radio STL implementation are met easily with T1-based systems. Some combination of linear and compressed audio is usually required. The final system configuration depends on the location of the HD Radio equipment. Locating the equipment at the studio allows you to use linear audio, move the necessary UDP data stream, and still have enough bandwidth left over for other auxiliary services.

In his almost 30 years in broadcasting, Ted Nahil has been a chief engineer or DOE for facilities in Boston, Detroit and Denver, and in satellite radio and TV in Avon, Conn., and Detroit. He has worked for Greater Media, Noble, Shamrock and Salem; he holds a lifetime FCC license and is a Microsoft Certified Systems Engineer in NT 4.0 and an SBE Certified Professional Broadcast Engineer.

MARKET PLACE

Burk Training Dates Set

Burk Technology announced the final dates for its 2006 factory training in Littleton, Mass.



Attendees can sign up to attend the all-day seminar on Oct. 19 or Oct. 20. The training is targeted to radio and television broadcast engineers, contractors and managers responsible for coordinating transmitter plant operation.

The company said its seminar "emphasizes the use of advanced software tools for increased efficiency and greater scope, with topics that apply both to single stations and groups."

The seminar is free; broadcasters who attend will earn factory certification credentials. Lunch is provided.

Contact Bonnie Christiansen at (800) 255-8090 or e-mail bonnie@burk.com.

WHO'S BUYING WHAT?

Armstrong Transmitter said it has developed a multi-channel digital transmitter under contract with the U.S. government. It said the digital transmitter is capable of simultaneously broadcasting on four separate FM channels. It did not release further details ...

Radio Systems equipment is being used at WTWP, Washington Post Radio, a joint effort of the Washington Post and Bonneville Broadcasting. Radio Systems Millennium Digital consoles and StudioHub+ CAT-5 wiring solution are used. The Post studios are linked to Bonneville's Idaho Ave. studios — the former WTOP — via leased lines. ...

Audionics said it supplied custom transmission routers for Real Radio regional stations in Yorkshire and Scotland, part of a "major reorganization" of a DAB network. The system includes a logic interface to enable remote control and integration with an RCS Master Control automation system. ...

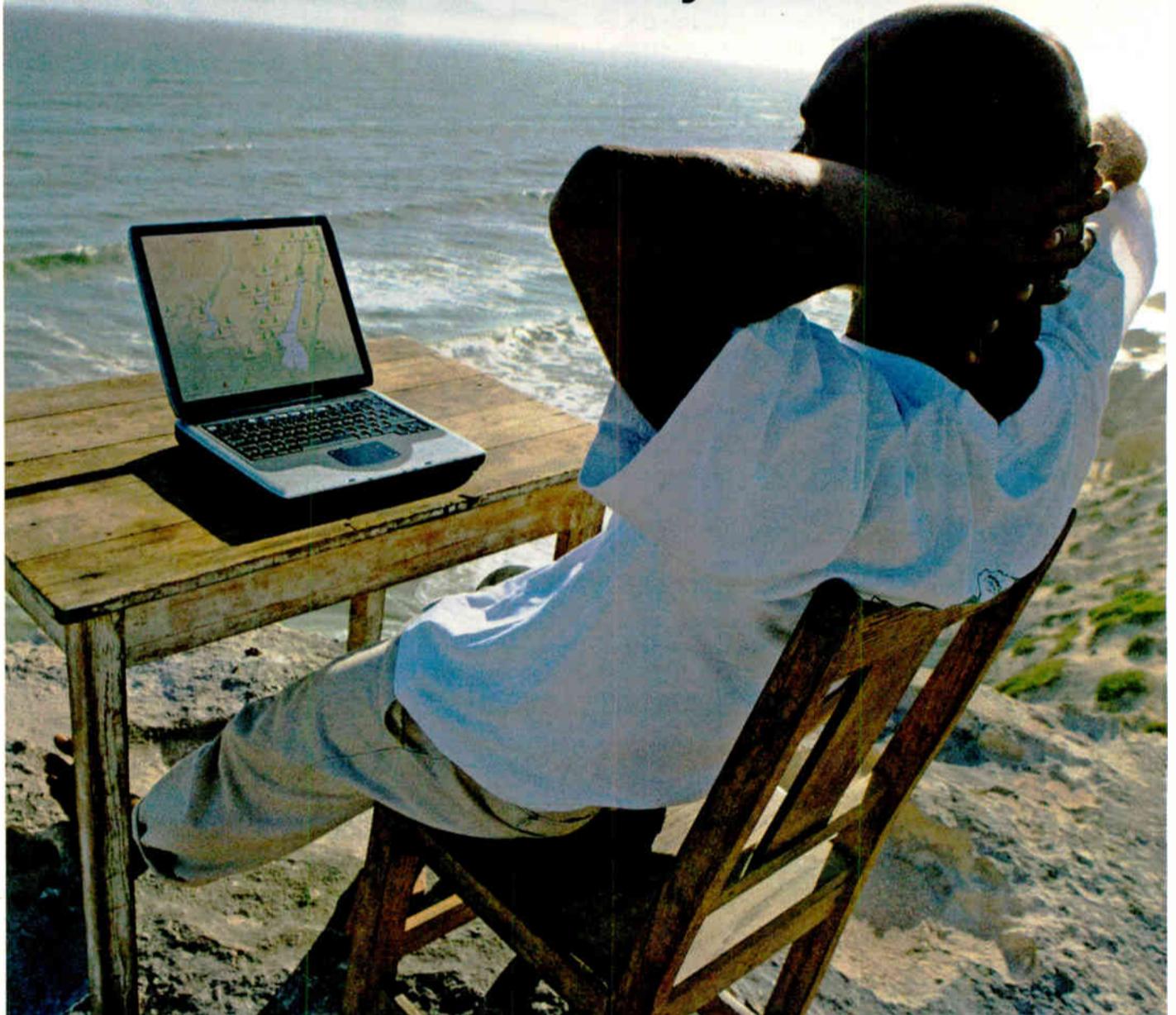
Metro Networks announced a multi-year agreement with Cumulus Media Inc., "effectively affiliating every Cumulus radio station with the Metro Source newswire service." The agreement affects approximately 320 stations in 60 markets. Metro Source/Westwood One officials called it a "benchmark"



Radio Systems consoles and wiring are in use for Washington Post Radio.

for the service, which now surpasses 2,000 affiliates.

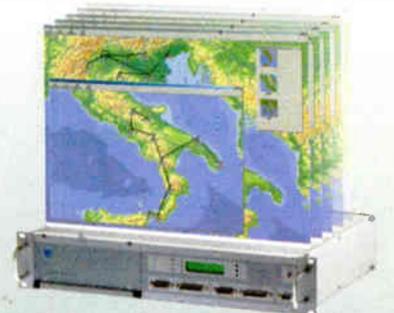
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New Directions in Internet Recruiting

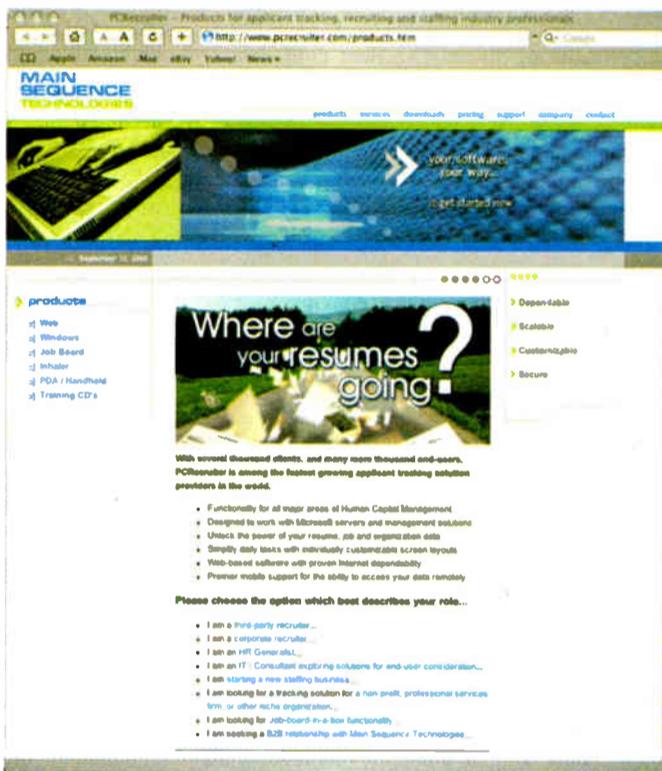
by Joe Dysart

While the first "career centers" on the Web were often little more than a blurb, a few photos and an e-mail address for résumés, uber-Internet recruiting these days has evolved a sophisticated interactive engine with the ability to automate virtually every facet of the hiring process.

Software makers have been busy inventing tools that enable radio stations and other employers to pre-screen applicants online, "inhale" résumés and automatically redistribute résumé data into

with the corporate world's ever-increasing reliance on the Web, have made Internet recruiting big time and big business — and according to some surveys, the number one recruitment tool for employers.

In fact, a survey of leading U.S. companies released in



So-called 'inhalers' work by auto-extracting résumés from a company's e-mail box or other online storage space, then mapping the mined data into your recruitment database.

February by Booz Allen Hamilton found that 51 percent of all new hires in 2005 originated on the Internet, with the greatest number of those hires

"The Internet has transformed the way American employers attract and hire employees," he says. "As we look at 2006, employers are giving serious thought to how the Internet can be better used for driving applicant flow."

If you're looking to retool your station's site with the latest Internet recruiting has to offer, here's an overview of what to look for, along with pointers on where to go for more information:

WEB SITE PRE-SCREENING SOFTWARE: These packages enable recruiters to custom-design online questionnaires featuring basic job requirements, and are a great time-saver for both parties. Using this software, stations get to automatically separate the wheat-from-the-chaff, and potential applicants learn quickly whether or not they're actually qualified for the job being advertised. Pre-screening software also enables organizations to get detailed information about an applicant's background, including information that might not ordinarily be included on a standard résumé.

For a look at pre-screening software, check out COREquisites by Interview Exchange (see sidebar for URLs), which uses weighted scoring to screen applicants. The company also makes a companion tool, Public Profile, which enables online applicants to judge how they stack up against other applicants seeking the same job. Generally, applicants who judge for themselves that they're not



Brian Burger of EMF Broadcasting says, 'Being on Monster allows us to reach more potential candidates and makes us more visible as a hiring force.'

company databases, and automate the process of candidate referrals from in-house personnel with easy-to-use Web portals.

Meanwhile, other software makers have created "diamond-in-the-rough" talent search software, which can be customized to search the Web for ideal, "passive" job candidates, based on what those candidates post on industry blogs, mailing lists, journals, industry association sites and the like.

The result: all the new tools, along

coming from employers' own Web sites.

"The Internet allows us to reach a larger pool of potential candidates," said Brian Burger, director of human resources at EMF Broadcasting, a syndicator of Christian programming. "It also allows us to do more 'active' recruiting, as opposed to being 'passive' in our recruiting approach and sitting back waiting for candidates to contact us. We can be creative in how we find people."

Dr. Richard Cober, team leader on the Booz Allen Hamilton survey, agrees.

SMALL-MARKET RADIO

Your Ads Should Attract, Engage And Persuade

To Succeed, Make Your Next Spot Better Than Your Last Song

by Craig Baker

Fred Krug is sharp. While working for him, I expressed a desire to buy my own station. Fred replied, "Acquisition is easy. Getting the thing to make money is another story."

Fred had other warnings too. "Don't ever go out and try to sell advertising. You're trying to sell something nobody wants to buy. Go out and help people sell cars and furniture and clothing."

Well, I went ahead and bought my thousand-watt daytime AM station. Of course it's at the high end of the dial; where else would you put a thousand-watt daytime AM?

Ownership changes the picture you might have of what a station needs to survive. It's not watts. Some people in radio think you need more watts, but not one of my advertisers or listeners owns a field strength meter. It's not jingles and programming. There's always somebody who can program better and flashier than I can, not to mention running big promotions and contests. I don't have the resources to do big contests; I can't give away a new car.

Here is what has been working for me: It boils down to being as valuable as you can be to your listeners and your clients.

Swingin' and ringin'

Motivational speaker Jim Rohn says it best: "If you work hard on your job, you can make a good living. If you work hard on yourself, you'll make a fortune."

For your clients, dealing with most advertising people is right up there with buying a car or undergoing a root canal procedure. Learn as many skills as you can that will help you better serve them.

One of my passions is creating an ad campaign that really works, one that "makes the door swing and the register ring," as Fred would say. One stumbling block is getting a client to get out of the way and let me design their ad.

I have several banks on the air. One is about as friendly and down to earth as you could get. This client let me come up with a series of comical ads that work. They even renewed on a thousand-watt daytime AM station at the high end of the dial — not because I used an RE-20 microphone and the latest audio editor, but because they know I return phone

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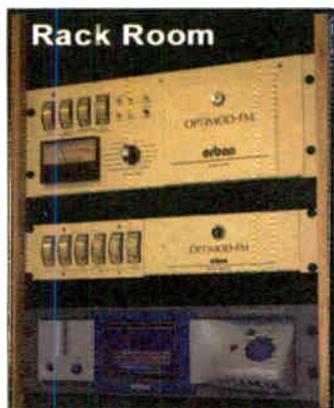


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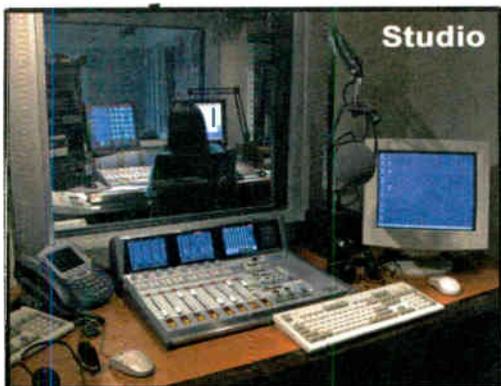
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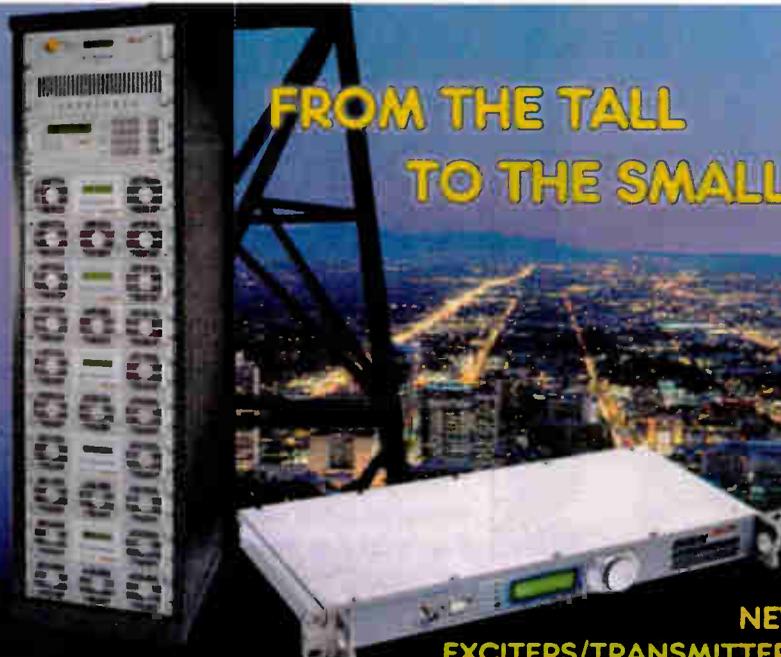
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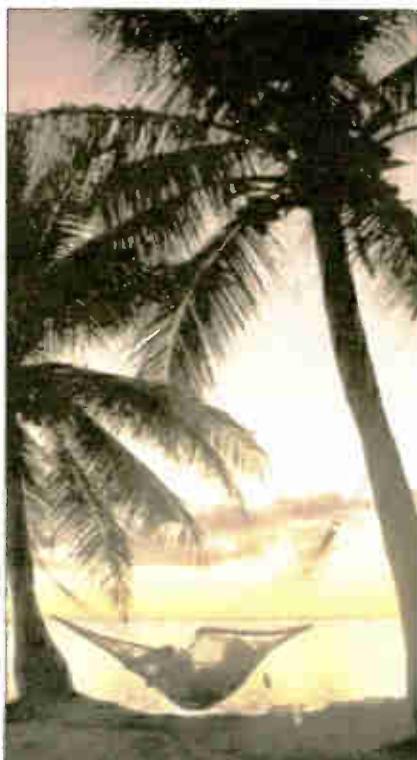
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Spots

► Continued from page 30

calls quickly, and that if there's a piece of trash paper on their sidewalk, I'll pick it up and get rid of it. They know I'm happy to send a copy of their spot to their stations at no charge.

They understand I'm not here to sell advertising. I'm here to help them be more successful and open more accounts.

One bank in the area is a different story. They don't get it. Talk about stuffy! As Fred would say, "They should have organ music playing in their lobby." I keep going round and round with them. The president is far too busy to speak with me on the phone, yet his gatekeeper told me the president wants to write the copy. I asked her, "OK — as long as I can write my own loan agreement!"

Imagine an ad written by a guy who spends hit time running a stuffy bank. I couldn't do that to my listeners.

Bank fraud

Here are the principles I apply to merchants or anybody else writing copy.

When a spot runs on our station, it is an essential part of our sound — unlike print ads, which are passive.

In fact, while it's on the air, the spot is our sound. As far as I'm concerned, your ad had better be at least as good as the last song we played, or it doesn't get on the air.

Here's my point. Suppose I let Mr. Smith write an ad for Smith's Super Market; it's going to sound just like every other ad ever written by a supermarket owner. It's going to be a list of meat prices, ice cream prices and Pepsi prices, followed by his hours, his location, his phone number and what he believes is the biggest reason people shop there, the number of years he's been in business.

We had 500 listeners. Assuming Mr. Smith is still there, we've now lost 499 of them. Remember the bank that was getting great results? Its ad was coming up next, but we let Smith put listeners to sleep and we lost them. They tuned out. We ran a stupid ad and cheated the bank out of the listeners it paid for. We committed bank fraud!

I respect my clients. They support me and put food on my table. I cherish them. Here's a rule I live by: No one is going to touch their ad without showing me a track record of writing successful, persuasive, compelling copy that engages the listener. Buy Roy Williams' books. Buy Dan O'Day's books. Do whatever works for you. Learn how to develop excellent ads.

I hear boring ads all day long. People working in agencies and stations can write ads as poorly as anyone. If you write a stupid song nobody will sing it. Isn't it hard enough to claim your share of listeners? Why waste everybody's time and drive them down the dial with an impotent spot?

Equity

I recently read an article that fascinated me. It talked about how to handle the problem of a merchant who wants to



Craig Baker

voice his own ad.

I couldn't believe what I was reading. My problem is convincing merchants they need to voice their own ads. (We write the copy, but the merchant does the spot.)

Here's why. Our station is well established as producing the best spots in the area. That along with an excellent format are really our strengths. No matter how good the ads that we voice and produce, rarely will anyone walk into a store and say, "I heard some guy on the radio talking about your sale." Put the merchant on the air and immediately people tease her or make some remark or do something that lets her know she's being heard. It often happens on *day one*! She's getting results. Beyond that, each time she's on the radio she's gaining equity in the minds of the listeners. Priceless.

There's a catch, and this can't be stressed enough: You must be certain the merchant comes across as sharp, friendly and upbeat. Record her in her gift shop, *not* in your studio. Record him in his service station, *not* your studio. They will be far more at ease at their place than they

would ever be in your production room. If the location has ambient sound, it adds interest to the spot.

Use the best equipment you have. I used a Marantz cassette machine for years; I still do for some tasks. Just make sure the heads are clean and aligned. Use the best mic available and a good tape. But if you don't have the latest equipment, nobody cares except other radio people.

Open ears

Joyce Harper bought Rusty's Restaurant in 1970. She never advertised anywhere, but right after I bought the station, she was kind enough to try us.

A guy driving down the road, looking for a place to eat lunch, didn't know we had recorded Joyce on a cassette at her counter. All he heard was, "When I was 12 years old, I learned to bake pies standing on a wooden box next to my mama's cook stove." Joyce sold a lot of homemade pie with that spot. Ask anybody why Rusty's banana pudding was so

an idea of the pacing, style and tone. Play them a demo of their friends' spots. Then work with them and coach them. Get them relaxed and laughing. It should be fun and not painful. At least get a couple of sentences out of them if at all possible.

There are always going to be some who won't do it. I find that fascinating. Who could tell you about Johnson's Hardware better than Johnson?

Fred Krug often told me that what you say in an ad, how you say it and how frequently you say it are more important than which station runs the ad. Be brief. If you can say it in two words, don't use three. Jesus said, "Follow me!" A brief message, but powerful because he backed it up with a great offer and a promise of complete satisfaction.

An effective ad attracts, engages and persuades the listener.

I hope some of these principles will be helpful in making you and your clients more successful. Radio works well when you do it right. For implanting a thought, an image or a slogan the listener can't

**I couldn't believe what I was reading.
My problem is convincing merchants
they need to voice their own ads.**

good, and Joyce would tell them over and over that the secret ingredient was "A whole lotta love!" Thank you, Joyce, for being such an important part of our programming and making our station sound great all these years.

We've never written an ad for Joyce; we just turn on the mic and let her talk. Then we choose interesting sentences and phrases and put them together in a spot.

Joyce is one of those people with a level of energy you don't have to tweak. Not all merchants are that radiogenic. For them, create a sample ad so they can get

forget, nothing else works as well as a good radio spot. It's intrusive! You hear it without even trying! As Chris Lytle says, "Radio works better than print because people have eyelids. They don't have earlids."

The spots you run are a major part of your sound. Make your next spot better than your last song.

Craig Baker owns WKVQ(AM) Eatonton and WYTH(AM) Madison, both in Georgia. Reach him at starstation@bellsouth.net.

Comment on this or any article to radioworld@imaspub.com.

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Recruiting

► Continued from page 30

competitive tend to move on, and save both parties time and effort.

Other customizable pre-screening recruitment packages include JobQ, from Axiom Systems; StaffCV, from StaffCV; and WebPAS, from VCG.

WEB SITE RÉSUMÉ INHALERS: These are great time-savers that are often components of larger, automated online recruiting software packages. Essentially, résumé inhalers work by auto-extracting résumés from a company's e-mail box or other online storage space, and then mapping the mined data into the business' recruitment database.

PC Recruiter's Inhaler is designed for such a task, and is programmed to recognize the résumé formats of leading job boards and résumé banks. The software can also be programmed to recognize custom formats — items like forms downloaded from your company Web site, or résumé formats from that of an e-recruiting partner. The Inhaler can also be configured to send an automated e-mail response to the person who submitted the résumé.

Other packages that include various spins on the résumé inhaler concept include RecruitTrack Recruiting & Staffing Software from DGCC.com LLC; Electronic Recruiting & Staffing Management Solution, from GHG; and Humanis from Questek Systems.

WEB SITE IN-HOUSE REFERRAL PORTALS: "The best people I've hired

came through somebody I knew, a referral," says Jason Goldberg, CEO of Jobster, a jobs board that uses referrals as its primary method of matching jobs with candidates. "The job found them."

A radio station can create its own referral portal on its own site with products like Referred Hire, from Interview Exchange.

The software essentially creates a secure domain on a company Web site where employees can log into to recommend friends and professional acquaintances for current openings, and receive a bounty for a successful hire if the organization has such a policy.

The best people I've hired came through somebody I knew, a referral.

— Jason Goldberg, CEO of Jobster

FREE QUALITY JOBS BOARDS: While posting on every free jobs board imaginable can quickly turn into a time-waster, there are a few free sites, like Google Base, where such posting makes sense. The reason: Google Base enables you to embed keywords and phrases that describe the job being offered, as well as keywords and phrases that help describe the characteristics and qualities you seek in applicants.

Starcom Vest Media Group, based in Chicago, a media advertising agency, regularly uses Google Base to spread the word on job openings.

DIAMOND-IN-THE-ROUGH TALENT SEARCH SOFTWARE: The oft-lamented truth recruiters must live with is that all the best candidates are taken. Too often, "A" talents are already working happily as employees at other companies.

Software solutions providers are getting around this age-old conundrum with packages that scour the Web for top education talent based on online articles they've written, postings they've made in newsgroups, positive postings that have been made about them by journalists or their colleagues, their memberships in various professional associations, and the like.

One of the more interesting in this category of automated recruiting is AIRS

Oxygen 6.0, according to Peter Weddle, a widely recognized recruitment guru. Another application to check out is ZoomInfo, an online search engine that specializes in tracking business people online. While a basic search is free, ZoomInfo charges a premium to recruiters who want to "go deeper" by conducting searches using 20+ variables.

You can also find some ingenious ways to use everyday search engines to find "passive" candidates in Weddle's book, "Being The Best In Online Recruitment & HR Management." For example, if you're convinced the person you want is most likely working for a specific company, you can often uncover leaders working there by doing a Google search with the following search string: "RE: @companyname.com."

"This search will uncover postings to forums, discussion boards, newsgroups and other sites by the employees of the target company," Weddle says.

OUTSOURCED HR WEB SOFTWARE: Some organizations outsource the operation of their Web careers centers to some of the bigger jobs boards. Monster.com, for example, sometimes handles the online processing of applicants for firms. Essentially, when job seekers visit an organization's careers site, they click a link that ultimately brings them to Monster.com's online applicant processing center. Monster processes the information, and then sends it along to the applicant's desired employer.

EMF Broadcasting uses Monster.com. "Monster is the largest Internet job search tool out there, and job seekers know that," EMF's Burger says. "So a majority of job seekers who utilize the Internet for their job search will go to Monster. Being on Monster allows us to reach more potential candidates and makes us more visible as a hiring force."

Other Monster.com users recently included Clear Channel's KQLL(FM) in Tulsa, Okla.; Native America Calling, based in Albuquerque, N.M., a syndicated live call-in program targeting native Americans; and Jones MediaAmerica, a Manhattan-based radios sales organization.

Other application service providers that can be used to outsource your Internet recruitment needs include Taleo and ContacTracker's ApplicaTracker. These two offer turnkey career centers on the

More Info

Web Site Pre-screening Software

Interview Exchange COREquisites
www.interviewexchange.com

Axiom Systems JobQ
www.axiomsoftware.com

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www.staffcv.com

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Web for a monthly fee, which will enable a radio station to offer state-of-the-art Internet recruiting without being forced to buy and install the software in-house.

FREE COURSES IN ONLINE RECRUITING: Jobs boards sometimes offer extensive training in online recruiting techniques as an enticement to get organizations to use their services. JobsInTheUS.com, for example, recently opened "JiUS University" which features a series of courses to help recruiters get up to speed on the latest online recruiting has to offer. Its Internet Recruiting 101 offers the top 10 tips for using online jobs boards. IR 201 focuses on writing

See RECRUITING, page 35 ►

STATION/STUDIO SERVICES

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Partnerships That Make Money

Thirty key clients were snacking on cheese, sipping wine and hanging out with their account reps at an art gallery. They were having a marvelous time schmoozing and looking at rare photographs of The Beatles.

The turnout was terrific because we held the event prior to the public opening and we had talked up the exhibit quite a bit on the air. A newspaper had even done a feature article about the photos.

The cost of this client party? Nada.

The wine and cheese were traded. More important, the station was actually a "partner" in the exhibit and the client party was just icing on the cake. And what a partnership. It eventually netted the station about 10 grand in totally non-spot money!

(especially newer ones) are not utilizing their promotion directors properly in giving them a role creating programs that generate non-spot dollars.

Naturally in order to do this, GSMs have to break the mold and actually pay a commission to someone at the station who technically is not a salesperson — potentially an uncomfortable concept. But a market manager should not fret over whether a promotion director will run wild and form inappropriate partnerships just to earn a buck. You've got a program director who can be your built-in bouncer should something be brought to the table that's not right for the station's format.

So that newer marketing/promotion directors may have a better idea of the

✓ Sampling Programs: These come in many shapes and sizes. The ones I like are big and annually funded.

Take your station van and outfit it to serve free beverage samples. The client brand gets to be part of the name of your van promoted on-air and you let them have a logo on the side of the vehicle. You bring the van to all major and minor station appearances, serving free drinks in small cups to your listeners.

This one should have a large price tag. Add up the on-air mentions and calculate the amount you can serve in one year and you'll be amazed at the volume. Your listeners will love it, and so will the client lucky enough to be the first to sign on the dotted line.

✓ Ticket/CD Raids: The promotion department saves out five pairs of tickets or a few dozen CDs. The station promotes that it's going to be at a client location for one hour. The event is promoted in unsold spot inventory, or in promo inventory.

Yes, account reps do have to sell these, but you should still consider paying promotion directors a commission for making it happen consistently. The key to making money here is that you do them consistently, like once a week. Even if you sell them for as little as \$500, you could make over \$20,000 annually and touch a lot of listeners with free stuff.

Promo Power



by Mark Lapidus

✓ Maps of Your City: These can be those cutesy maps you see done in tourist towns, or maps done in conjunction with the local transportation authority. Leave room for ads. Sell someone the right to distribute at their multiple locations and you're in business.

These types of programs make money and endear your station to listeners and clients alike. Everyone wins. So take action now. You can't win if you're not even in the game.

The author is president of Lapidus Media. E-mail him at marklapidus@yahoo.com.

Most major players are so focused on average unit rates, beating the market for share and maximizing inventory that NTR has again taken a back seat.

How did it happen? Because the station had put special emphasis on generating non-traditional revenue. So beneficial was this type of activity, the station actually compensated the promotion director with a commission whenever he was involved in forming a partnership that brought in non-spot business.

Creative thinking

Non-traditional revenue goes in and out of vogue with the radio industry. At the moment, most of the major players are so focused on average unit rates, beating the market for share and maximizing inventory that non-traditional revenue has once again taken a back seat.

It's difficult to blame general sales managers, who are just doing what they're told to meet corporate goals. I am suggesting, however, that perhaps GSMs

type of partnerships and programs that could be appropriate, here are a few examples:

✓ Photographic Art Shows: Find a touring show, like an artist who specializes in rare photos, that fits your format. For example, classic rock/oldies formats can find an outfit that specializes in rock bands from their heyday. Country stations can go classic, current or a combo.

Locate a vacant store in a major shopping mall and trade the space for mentions or spots. You'll only need it for a week or so. The show gives the station 15 percent of the take on what's sold. The station promotes the show as a "Presents," complete with an opening night and maybe one special day that partially benefits a worthy cause.

Recruiting

► Continued from page 34 and formatting eye-catching job postings, including most effective usage of html, graphics and photos. And IR 301 hones in on industry-specific recruiting tips.

THE TOP 30 BEST JOBS BOARDS:

Given that there are approximately 40,000 Web sites that are currently involved in Internet recruiting in some way, it would be nice if you knew what were considered the most effective. Weddle did a survey of 15,000 users of such sites — both employers and jobs seekers — and ferreted out la crème de la crème.

The result of his efforts are his User's Choice Awards. They can be found on his Web site, www.weddles.com. Winners are sites such as 6-Figure Jobs, America's Job Bank, USAJobs and TalentZoo.com.

WHERE TO GO FOR MORE INFO:

If you're looking to study Internet recruiting in depth, a great place to start is with Weddle's books. He's a former recruiter and business CEO turned author

and speaker. He also writes a bi-weekly column on recruiting for The Wall Street Journal, and has received accolades for his books and work throughout the mainstream media.

Texts include "Weddle's 2005/6 Guide to Employment Sites on the Internet; "Weddle's Directory of Employment-Related Internet Sites" and "Weddle's Postcards From Space: Being the Best in Online Recruitment & HR Management."

Another comprehensive book on Internet recruiting is "Electronic Recruiting 101" by Shally Steckerl. For a blow-by-blow comparison of specific Web recruiting packages on the market, check out Mark E. Berger's "Applicant Tracking Systems: Identification, Evaluation and Selection." Part One of Berger's book offers overall tips for selecting an Internet recruiting package that's right for your organization; Part Two is a compendium featuring details on 39 specific recruitment software packages, along with key specs and a general description of each package.

Joe Dysart is an Internet speaker and business consultant based in Thousand Oaks, Calif. Visit www.joedysart.com.

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GUEST COMMENTARY

Beyond the Content Cliché

Programmers, Think Less About Delivery Systems And Focus on Creating Compelling Content

by Ken Moultrie

"It's all about the content." That phrase is becoming cliché, and that's the problem. It's become so cliché, in fact, it's easy to forget. At the same time, there is a lot of technology buzz going on in our business. HD, streaming, satellite and podcasting are most common. And we can expect the list of delivery methods to increase over time, not decrease.

All of these new methods for delivering content to our listeners are good news. But where is the content going to come from? As programmers, we need to think less about technology and delivery systems and focus on what we do best: create unique and compelling content.

Distractions

I promise you that consumers don't think about technology or delivery systems. They didn't sign up for XM or Sirius because they think it's cool to listen to music and programming on a satellite from up in space.

They bought it because of the content. Commercial-free music, plenty of diverse music choices, plus non-music programming that they cannot get anywhere else ... like Howard Stern, sports, etc.

Quiz your friends and neighbors or anyone outside of the radio business who has signed up and you'll find this to be true.

XM and Sirius seem to get the idea that they are in the business of creating unique content, without regard to delivery system. They certainly are not marketing the technology. They are marketing the content.

It seems that we are doing just the opposite right now with the marketing of

HD Radio. Most of what I've heard is focused on selling the technology and not specific programming choices. We need to market this technology with real benefits to the consumer, and that comes down



Ken Moultrie

to content. Even better if it's market-specific content, or at least has a local twist.

Now, are XM and Sirius better than us at creating content? Of course not. Hey, where did they come from? Not "satellite radio programming school." They are simply creative programming people who are doing exactly what they have always done, perhaps with the advantage of fewer distractions than many radio PDs.

As programming people, we cannot afford to be distracted by technology or anything else that prevents us from focusing on creating and selling unique programming choices offered on all delivery

platforms.

Local content is one advantage that terrestrial broadcasters have over satellite or Internet programming. But don't fool yourself. While local is very important, content is No. 1.

If the content I want at the moment is local news or information, my local station wins. If my favorite personality is on a local station, my local station wins. If I want to hear great classic rock music, will my local station win? Depends.

I have hundreds of places I can go to get great classic rock. What's going on (or NOT going on) between the songs is what will compel me to choose one over the other. The fact that it's a local station will have little to do with the decision.

Think about content that may or may not be music-related, particularly for streaming. Many stations shy away from streaming because of royalties and other issues. What can you offer listeners and promote on-air that is unique to your radio station (brand) and your market?

Consider local high school sports, important council meetings, the old "radio swap-and-shop." re-broadcasting your morning show continuously each day (remove music and spots), a local music show or a continuous loop of your morning newscast, updating it every 30 minutes.

I'd encourage you to hold a brain-



Portable devices like those offered by Pocket Tunes are changing listening habits. What are we going to do with them?

storming meeting with your staff. I'll bet you could fill a few pages with great ideas of content that you could develop easily and inexpensively that would be interesting to your audience, not to mention present separate sponsorship opportunities for your sales team.

It won't be long before the delivery system is invisible to the consumer. Hop in the car and the "new radio" will be capable of receiving every available platform and will navigate smoothly between them. Listeners will have thousands of choices at their fingertips.

They may go to a local AM station for news and traffic, then over to a favorite morning show on FM, finally settling in on their favorite "all-music" channel on the Internet. It will be as simple for them to move among these different delivery platforms as it is to navigate between stations on the AM-FM dial today.

See CONTENT, page 37 ▶

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Content

► Continued from page 36

This is no different than the way we watch television now. If you have cable or a dish, you surf between hundreds of choices without ever thinking about whether or not your favorite channels are "broadcast," "cable-only" or a "premium" service. You simply pick your favorites and navigate to them for one reason: the content you want at a particular moment.

Much of my listening at home and in-car these days is to Internet radio. It's great because I can tune in to client stations while eating breakfast. I have Wi-Fi at home and listen on portable devices and in-car on my commute with my cell phone.

My provider offers unlimited national broadband access for a reasonable monthly fee, so there are no "per-minute" charges, and the phone connects to my car radio so the sound is quite good. I travel quite a bit, and have found few places where the connection is not rock-solid, even in some remote locations.

I admit that my listening habits these days are a bit "geek" and perhaps ahead of the curve for the average consumer, but the curve is moving quickly and has come a long way in the past year.

The technology is here. We have new delivery platforms available today. What are we going to do with them? Niche music formats are not a bad idea, but if our creativity stops there, we're dead. If you are a country station and decide to create a co-branded "new country" channel on HD2 or the Internet, what will you do between the songs that nobody else can duplicate?

The author is senior director of programming for Jones Radio Networks/Seattle. This article appeared in the company's Sharepoints newsletter and is printed with permission. Visit www.jones.com/jrn/.

RW welcomes other points of view to radioworld@imaspub.com.

VSE Radio Hosts Jubilee

VSE Radio — "the largest independent Russian language radio station in the New York Tri-State area" — hosted a live show at the annual Brighton Jubilee in Brooklyn in August. Sponsors for the live radio show included Verizon Wireless, Toyota and Infinite Leasing.

WNYZ actually is a low-power television station on TV Channel 6. It currently is broadcasting only via the audio subcarrier of 87.75 MHz, which can be received on many FM receivers, and the station markets itself as an FM radio station airing a Russian top 40 format, Radio Souv.

Licensee Echo Broadcast Group is a Russian-American entertainment and media company with contributing staff in the United States and the former Soviet Union. It describes its programming as "content that resonates with the Second Generation mentality — distinctly American with a European flair."

The event is an annual end-of-summer fling put on by the Brighton Neighborhood Association. The station erected a stage and hosted singers, dancers, comedians and other performing artists from the Russian community.

Echo Director of Sales and Marketing Eugene Morgovsky said, "South Brooklyn has a vibrant community of Russians and non-Russians alike."



Radio VSE Host and Afternoon Show Producer Michael Novahov and Host and Morning Show Producer Michael Brovkin take the stage with the Radio VSE Dancers.



Robin McConaughy, left, and Carol Doroba

Fantoo Girls Launch In Philadelphia

Greater Media outlet WPEN(AM) in Philly debuted what it calls the country's first all-female sports talk radio show.

The "Fantoo Girls" air at 9 a.m. Saturday mornings. They are Carol Doroba and Robin McConaughy, who host the national sports-talk podcast "Fantoo Girls — Where the Girls Talk Sports." They also write for the Philadelphia Eagles Web site and market a line of apparel for female sports fans.

The women, who worked as headhunters in Philadelphia before establishing their Fantoo brand, are pursuing TV and broadband content deals as well.

The station describes the hosts as "the ladies you wish were sitting next to you at the sports bar on game day."

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Pavek Hall Inducts Minnesota Greats

by James Careless

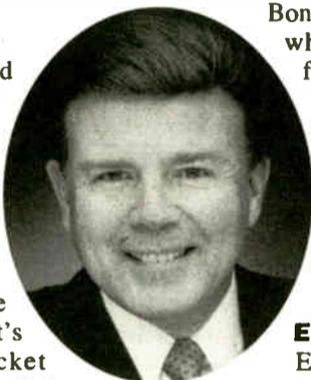
On Oct. 28, the Pavek Museum of Broadcasting will induct this year's selection of Minnesota broadcasting greats to its Hall of Fame. The ceremony will be at the Metropolitan Ballroom and Clubroom in Golden Valley, Minn., during a black tie gala.

This is the sixth since the Pavek established its Hall of Fame in 2001. Here's a snapshot of the radio entrants. Also inducted are Ralph Dolan of Hubbard Broadcasting and Don Stolz of WCCO Television and The Old Log Theater; and the museum is honoring Mary Alice Williams with its Distinguished Service Award.

Johnny Canton

Canton has filled virtually every position in radio (and beyond; if you screen a copy of the classic film "Airport," the one with Maureen Stapleton at the ticket counter, that's Canton as the ticket agent in a speaking role.)

Having started at age 16 on KLEX(AM) in Lexington, Ky., Canton worked his way around radio until he came to WDGY(AM) in Minneapolis-St.



Paul in 1966, where he was for 11 years. He did stints as the noon-to-3 on-air talent, music director and program director; then moved to WCCO(FM), now WLTE. He heads up Canton Communications full-time, but still hosts a weekend show on the station.

Canton recalls an event in 1968 when singer Cher miscarried before a WDGY-sponsored Sonny & Cher concert in 1968. Sonny Bono refused to leave his partner alone at home, and the station was faced with canceling "one of the largest concerts of the year," Canton said. After much pleading and with support from Cher's doctor, Sonny agreed to keep his concert date.

To make lemonade out of lemons, Bono appeared on the station to explain why Cher wasn't there and invited female singers to call the station. "It turned out to be a great crowd-pleaser, what with the Cher hopefuls singing with Sonny," said Canton. Bono told the audience that if it had not been for the insistence of Johnny Canton, he would not have made the appearance.

Ed and Carol De La Hunt

Ed De La Hunt began his radio career as chief engineer at WMIN(AM) in Minneapolis-St. Paul. However, it was the creation of KPRM(AM) in Park Rapids, Minn., that launched him and his

family into local radio ownership. Today, De La Hunt Broadcasting and the KK Radio Network include seven stations built and operated by the family.

Carol has managed the company's finances, handles traffic and manages day to day operations with the family and staff. "The De La Hunts have also built and engineered numerous radio stations for other broadcasters, and have run their own tower company and consulting firm," the Pavek bio states. Ed has done play-by-play for some 4,000 sporting events and served as a county commissioner and a member of the Minnesota Broadcasters Association board.

Looking back on his career, Ed says his biggest achievement has been staying in business all these years.

"Small-town radio is very, very difficult and extremely challenging." He credits his "survival" to the help of Carol and their family. "A

majority of my [eight] kids are in the business," De La Hunt said. "They're willing to work harder than anyone else would work to make it a success. Without my wife and the kids, there's no way we could have survived."



Dan Donovan

Currently host of "The Original Rock & Roll Show" on KOOL 108 — KQQL(FM) in Minneapolis-St. Paul — Dan Donovan prides himself on his radio longevity.

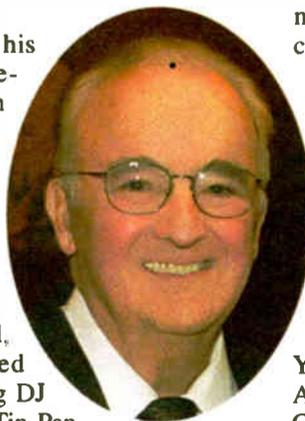
In fact, he makes fun of it on the air, referring to himself as the Geezer. According to www.kool108.com, "Dan Donovan's name is synonymous with 147 years of Great Twin Cities radio."

Actually, Donovan got his radio launch in 1957 in York, Pa. Having signed on Minneapolis-St. Paul in 1979, "over half of my career has been in the Twin Cities," Donovan said. "That's why the Hall of Fame honor is very satisfying."

Andy Hilger

Hilger talked his way into Minnesota radio in 1958, when he stepped into a pay phone booth, called WJON(AM) in St. Cloud and asked for a job. The call worked, and Hilger ended up as the evening DJ under the name Tin Pan Andy.

"I wanted to be a great play-by-play [announcer] ... another Dick Enroth," said Hilger, referring to the legendary Minnesota sports broadcasters of the 1940s and '50s. He remembers doing his first play-by-play: "Broadcasting for KCIM in Carroll, Iowa, in an open-air



broadcast booth, I was totally drowned out by a Fort Dodge sports announcer sitting almost at my elbow."

Once at WJON, Hilger filled various roles, from news to sales to on-air sports. By 1972 he had purchased WJON and WWJO(FM). Eventually he sold his stations but retained contemporary Christian KKJM(FM) until he gave it to the Catholic Diocese of St. Cloud.

Looking back at his career, Hilger says highlights include "running a broadcast company that contributed to the community and was a positive force for the family; plus 45 years of daily editorials." His advice to today's broadcasters: "Serve local needs, and you'll be distinctive."

Jerry & Pat Papenfuss

Jerry Papenfuss started in radio sales at KAGE (AM) in Winona, Minn., with his office a card table set up in the station's hallway. From there, Papenfuss moved up; in partnership with his wife Pat, they estab-

lished Minnesota's Result Radio Group. Today, RRG owns 14 radio stations in the state, all in small markets. Jerry is a past president of the Minnesota Broadcasters Association and a former member of the NAB board.

"Our whole philosophy has been to be of service to the community," said Jerry.

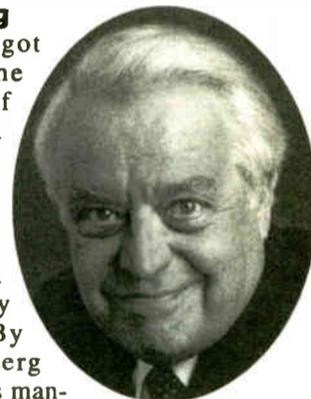
Pat says being "local" gives their stations an edge over satellite radio. "People want that personal contact" that local radio provides, she said. "It's the one thing we can offer" that satellite radio can't.

Jim Ramsburg

Ramsburg got his start at the University of Minnesota School of Journalism carrier-current station WMMR (not to be confused with the Philly FM rocker). By 1955, Ramsburg was the station's manager; soon after, he ended up at WDGY(AM) in Minnesota-St. Paul, where he won the afternoon music slot and "Nightbeat" late-night call-in show.

"I had been doing a summer relief job at WLOL(AM)" — also in Minneapolis-St. Paul — "when WDGY owner Todd Storz called me at 3 a.m. and asked me if I wanted a job," Ramsburg recalls. He said yes and became one of the youngest radio personalities in the market, working for the legendary Storz.

After working at stations in New York state, Kansas City and Los Angeles, Ramsburg returned to the Twin Cities in 1971 as KSTP(AM) program director. In 1976, he founded Ramsburg Media Services with his wife Pat. Today, Ramsburg looks back on more than 50 years in radio and broadcast advertising. He is developing "Kings of the Kilocycles," a multi-media presentation chronicling the glory days of network radio. 🌐



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STEREO SWITCHER



SS 16.4

The 16.4 provides matrix audio switching of 16 stereo inputs to four stereo plus four mono outputs. Matrix switching allows any/all inputs to be assigned to any/all outputs. The SS 16.4 may be controlled via front panel switches, contact closures, 5-volt TTL/CMOS logic and/or the multi-drop RS-232 or RS-485 serial port along with 24 GPIO's and input expansion port. Installation is simplified with plug-in euroblock screw terminals.



Be sure to visit our website at www.broadcasttools.com for downloadable manuals, complete product information, and a list of dealers.



ACS 8.2 Plus

The ACS 8.2 Plus provides matrix audio switching of eight stereo inputs to two stereo plus two mono outputs. Any input assigned to output one has fading capabilities. Matrix switching allows any/all inputs to be assigned to any/all outputs. Additional features include; stereo LED VU meters selectable between both outputs, stereo headphone amplifier with front panel output selection switch, headphone jack and level control, front panel input selection switches for each input channel with separate output indicator LED's, remote control via contact closures, 5-volt TTL/CMOS logic and/or the multi-drop RS-232 serial port along with 16 GPI's, eight relays, eight open collector outputs, and input expansion port. Installation is simplified with plug-in euroblock screw terminals.



ACS 8.2 Plus/RJ

The ACS 8.2 Plus/RJ provides matrix audio switching of eight stereo inputs to two stereo plus two mono outputs. Any input assigned to output one has fading capabilities. Matrix switching allows any/all inputs to be assigned to any/all outputs. Additional features include; stereo LED VU meters selectable between both outputs, stereo headphone amplifier with front panel output selection switch, headphone jack and level control, front panel input selection switches for each input channel with separate output indicator LED's, remote control via contact closures, 5-volt TTL/CMOS logic and/or the multi-drop RS-232 serial port along with 16 GPI's, eight relays, eight open collector outputs, and input expansion port. Installation is simplified with RJ-45's that conform to the Studio Hub wiring convention.



SS 4.2

The SS 4.2 provides matrix audio switching of four stereo inputs to two stereo plus two mono outputs. Matrix switching allows any/all inputs to be assigned to any/all outputs. The SS 4.2 may be controlled via front panel switches, contact closures, 5-volt TTL/CMOS logic and/or the multi-drop RS-232 serial port along with 16 GPI's, eight GPO's, and input expansion port. Installation is simplified with plug-in euroblock screw terminals.

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You Want Those Radio Diary Keepers to Remember Your Station Name And Write It Down. Your Branding Should Encourage That Behavior

by Gary Begin

You need to produce benchmark features, memorable items the audience can embrace and remember. Are you doing things that are predictable, mundane or boring? Or are you "branding" your features?

Make it a part of your personality and the station to set yourself apart from the rest and help get you remembered — and more important, *written down*.

Stations need to seriously rethink their on-air imaging. They are so *forgettable*. Everyone and his brother have big lasers and

balls voices. As Arbitron diary keepers go across the dial, you think they're going to remember the bells and whistles? Or will they remember and write down a station that is entertaining, interesting, funny, has drama and plays well with the listener? You be the judge.

Remember me

Radio is in the memory business. Until PPM or some other methodology is realized full-time, getting diary keepers to write you in their diaries will depend largely on remembering your station's name, frequency or uniqueness — something that singles you out and gets your station written down.

This is not the time to be shy. Memorable experiences or features (like "The Five O'Clock Funnies") increase your chances over time of increasing diary entries.

The part of radio's "magic" is the fact that we do things our listeners cannot do themselves. Our listeners don't have traffic helicopters, news staffs, meteorologists, sports reporters, huge CD libraries. They don't interview important people or give away great prizes. We get to do that. You know what *they* can do? They can turn the dial.

So take material you or someone else has created and make it your own. Unique, memorable experiences are a large part of what gets you remembered — and more important, *written down!*

Great radio stations and personalities pull us along effortlessly. The listeners don't lose their interest. That's because there's a great natural flow to the station. Flow is what helps build TSL and keeps you from suffering from listener fatigue. You want to build flow

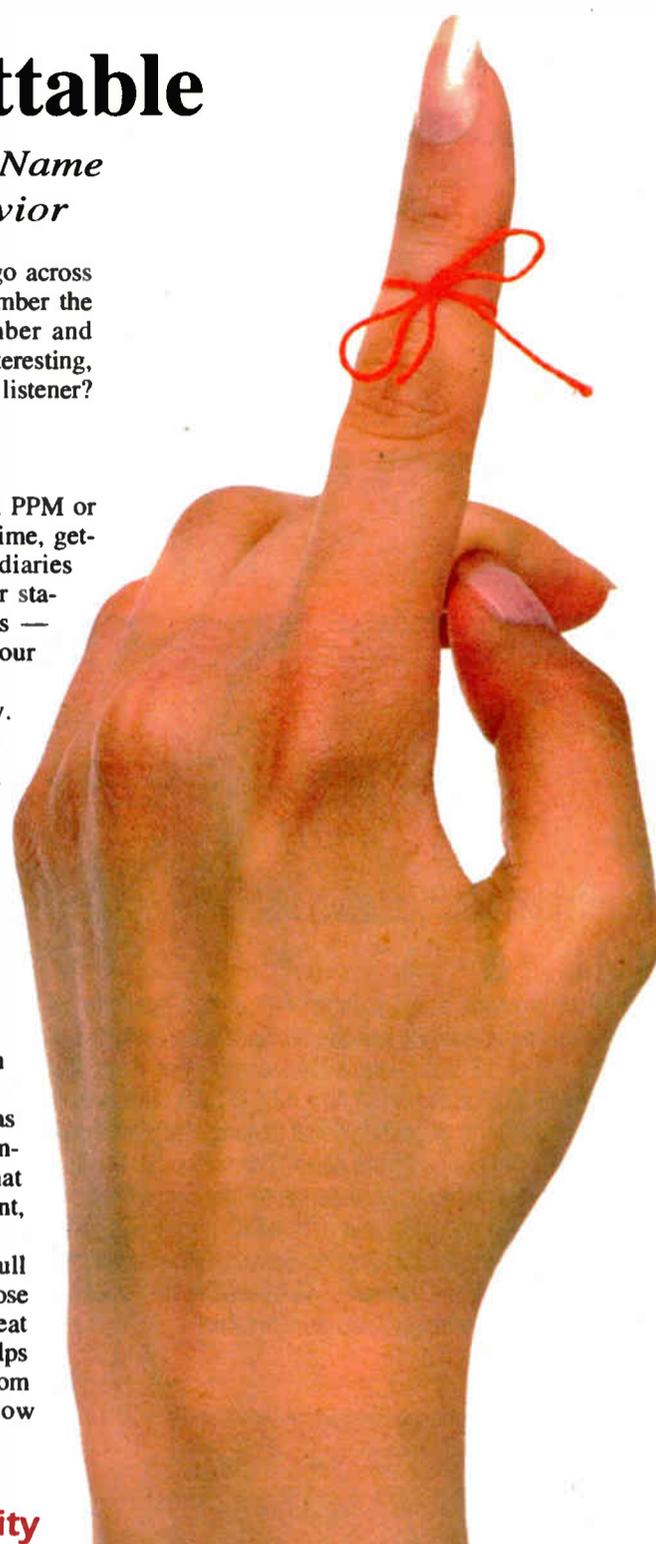
Every time a personality says 'Now it's time for' or 'we'll be back after this,' you're subconsciously telling the listener that whatever reason they came to you no longer exists.

because it helps to make a show a series of discrete elements rather than separate, disjointed features.

Every time a personality says "Now it's time for" or "we'll be back after this," you're subconsciously telling the listener that whatever reason they came to you no longer exists. What you're hearing is an exit. The real message is that it's OK to leave. The problem is you can't come back unless you leave. Makes sense, doesn't it?

Don't give your audience permission or reason to leave. Instead make for greater TSL and more opportunity for diary keepers to *write down* your station.

Do everything you can to get as much cume as possible from your target demo. This is especially important when running contests on the air. Contests are not about winning; they're an excuse to enjoy the relationship you already have with your listeners. That means furnishing a reason for your listeners to "stick around."



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Gentner Prizm audio processor, Gentner Lazer audio processor/stereo generator - Kahn Symmetra-peak SP58-1A - Orban 245F stereo synthesizer. Make offer for any or all. email glen.kippel@gmail.com or phone KWKY 760-328-1104

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Milwaukee's Best

The photo on the cover of the transmitter building of WSSP(AM) — formerly WEMP(AM)/WNUW(FM) — brought back a flood of memories (“History Is Alive and Well in Milwaukee,” April 16). That site was the first I worked at as a broadcast engineer, 1974–75.

In 1974 the AM studios were at 200 N. Jefferson in downtown Milwaukee. The FM studios were at the transmitter site.

its own automation programming using legendary Milwaukee announcer Lee Rothman for the voice tracks. It was my job once a week to meld Lee's taped voice track with records to produce the 15-inch “hit-reel” seen on one of the Scully decks. WNUW at that time was running automation overnight and part of the day, having live DJs at other times.

I worked the third shift almost exclusively by myself. One night early in my tenure around 2 a.m., the automation



Wundrock remembers WEMP's attached garage, which had been converted to an FM production studio ...



... and held the automation system.

When I began at WEMP that February, I was only 23, and the youngest of seven engineers. Three of the engineers were over 60. Two had begun with the station, at a previous location, in 1938.

There was still a lot of history at the site in 1974. There were a few audio carts with Milwaukee Braves promos on them. WEMP was a flagship station of the Braves in the 1950s.

The basement of the site contained a library of an estimated 10,000 78 RPM records. They hadn't been used in many years but were still on site.

The building had an attached garage that had been converted to an FM production studio and held the automation system. The system was purchased in the late 1960s and ran the Drake-Chenault “Hit Parade” format on WNUW.

Later the station management arranged

developed major problems. I didn't want to get any other engineer out of bed, so I got out the books and dug in to find a solution to the problem.

In those years Kareem Abdul-Jabbar was playing for the Milwaukee Bucks. Station management heard that he liked jazz and had an extensive collection, but there was no radio outlet for jazz in the area. Management arranged a Saturday afternoon slot for Kareem to play some records, with one of the engineers running the board for him.

It lasted only one shift, apparently due to some concerns his Muslim religious leaders had. I never got to meet him. I did receive calls for several weeks afterwards from across the country from fans wanting his autograph.

Bob Wundrock
Madison, Wis.



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Andy Eliason
Chief Engineer
WVCY(FM)
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GUEST COMMENTARY

Dump AM IBOC, Move the AM Band

by Fred Lundgren

AM and FM radio stations are required to operate in the "public interest, convenience and necessity" regardless of band, dial position, wattage or coverage area. Class D AM radio stations can't serve the public convenience when they receive destructive interference, or when they must reduce power or sign-off completely in the middle of afternoon drive.

Adopting Ibiquity's AM IBOC as the new AM "standard" is just plain stupid. And, as talk radio callers remind us, you can't fix stupid.

Why adopt a standard that causes destructive interference to your station and all your neighboring stations and, a standard that can't function at night due to skywave?

When I add AM IBOC to the previous list of so-called improvements to the AM band, I get paranoid. Please review my "Top 10 list" and you decide.

1. Adopting wrong AM stereo standard
2. Break up of the big AM clears
3. Reductions to AM frequency response
4. Reductions to AM receiver standards
5. 125 percent positive peak modulation (This rule does not apply to large group-owned

- stations that modulate at 140 percent or higher).
6. Changes to first- and second-adjacency AM rules
7. Adding expanded-band AM on the wrong end of the dial
8. Adopting the wrong AM digital standard
9. Further reduction in AM frequency response
10. EAS, which allows your local FM rock station to broadcast its call sign and jingle over your weekly test

Now, for the full effect, combine all of the above with more new stations allocated by the AM auction process, a system that equates merit with the amount of dollars you can raise.

Well, enough already. It is time to level the playing field by migrating all AM radio stations to a new expanded FM band at frequencies between 54 MHz and 87.9 MHz.

Currently, only five VHF television channels (2 through 6) occupy 90 percent of this spectrum space. Under current FCC rules, some TV stations will remain on these low frequencies and others will migrate to high-band VHF or UHF frequencies.

In my opinion, the FCC should require all TV stations on Channels 2 through 6 to migrate away from lowband VHF. This

will benefit all three services, AM, FM and TV.

Benefits

First, it will eliminate the "impulse noise" associated with operating a digital TV service on a low-band VHF channel.

Second, it will open up enough FM spectrum to accommodate all existing AM stations while providing new spectrum space for thousands of future FM stations.

Third, it will forever eliminate the destructive interference and low-frequency response that plagues AM radio.

Fourth, it will remove pressure from the current FM band, which is limited to only 20 MHz of crowded spectrum.

Each migrating AM should receive an FM frequency allocation consistent with the rules and mileage separation requirements governing the FM table of allotments. Further adjustments should be made to acknowledge each station's previous AM class and coverage area with a goal of restoring each station to its previous relative status in the community, except all stations will be licensed as non-directional full-time facilities at a power level determined by mileage separation.

No auctions for migrating AMs, please. The FCC already awards enough spectrum space to broadcasters with the deepest pockets.

Certainly, in the short term, the FCC should listen to the NAB and the comments in favor of using FM translators on AM stations. However, FM translators won't help AMs in a crowded FM market unless translators are protected. Fat chance. Have you seen the backlog of translator applications already on file? I suspect this translator idea originated with NAB's membership committee or some public relations group.

If the NAB takes its own proposal seriously, they must ask the FCC for protected translators. That requires giving priority to AMs on a needs basis. Anything less just adds interference to the FM band and does nothing to fix AM.

If the FCC were to prioritize FM translators for use on the AM band, the first grants should go to Class D, AM daytime stations that currently broadcast on Mexican and Canadian clear channels, and within that category, priority should be given to those stations receiving destructive interference from illegal stations across the border. Again, no auctions, please.

Realistically, all of the above is little more than wishful thinking on my part. In the long run, our success as AM broadcasters will not be determined by our band, our dial position or even our terrestrial coverage. Instead, we will be rewarded by quality content as broadband wireless Internet quietly levels the playing field.

Fred Lundgren is the CEO of KCAA Radio, licensed to Loma Linda, Calif., in the Riverside/San Bernardino market.

◆ READER'S FORUM ◆

FM: The Writing On the Wall

I read Larry Langford's article, "Chicago HD-R: Good, Bad & 'Spooky'" (Aug. 2) and wanted to respond to the concluding question about the reader's experience with HD Radio.

Personally, I am a Sirius subscriber and dedicated fan. Earlier this week, my power cord blew a fuse so

I have been forced to listen to the free radio for a few days here in Atlanta. I have not listened to a second of FM radio for at least six or eight months (maybe more) but was shocked to hear the quality of FM radio.

The half a dozen or so stations I tried all seemed to have sub-par quality. As far as I know, most if not all of these stations are supposedly HD-quality. Given, I do not have the HD Radio equipment, but I would expect a comparable signal to what I received before I stopped listening to FM radio. The stations often had a "rolling" static and interference. Maybe my experience was skewed by the crystal-clear quality of Sirius Satellite Radio (the best radio on radio) that I have become accustomed to.

I will say that it was obvious that the FM radio companies have restructured their programming to play less commercials than before. However, HD or not, I see the writing on the wall for FM radio. People want content, not commercials or poor programming, and they're (we're) willing to pay a little more for that best commercial-free quality.

As proof, I see XM's popularity

decreasing because of Clear Channel's move to force commercials on to the XM platform. I see the FM radio companies quietly moving into the satellite radio realm (many have already begun) because free radio has nowhere to go but down. As soon as I get my power cord working and satellite radio up and running again, I will not be returning to free radio.

*Todd Coggins
Atlanta*

More on McCarty

Steve Lampen's letter concerning Francis J. McCarty's work in early radiotelephony ("McCarty's Brush With History," Sept. 1) raises some interesting points in terms of claims to priority in this field.

Actually, it's been reported that Reginald Fessenden succeeded in transmitting speech for a distance of one mile in the fall of 1900. The equipment used was basically a spark transmitter with a mechanical interrupter producing some 10,000 breaks per second. (It was Fessenden's belief that this train of sparks might approximate a continuous wave.)

According to at least one source, Greenleaf Whittier Pickard, inventor of the crystal detector, is given credit for transmitting speech a distance of some 10 miles in 1899.

Regardless of who should get credit for being first, a bit more information needs to be presented about McCarty.

His attempts at spark radiotelephony were bankrolled by two Oakland, Calif.,

bankers: William and Tyler Henshaw. After McCarty's death in a road accident in 1906, they were understandably concerned about the possibility of a return on their investment. They knew very little about radio and what McCarty had been trying to perfect, and contacted the head of the electrical engineering department at Stanford University, Harris Ryan, for advice.

Ryan referred them to a recent graduate, Cyril F. Elwell. Somewhat reluctantly, Elwell accepted the assignment to study and prepare a report on McCarty's apparatus for the Henshaws. (At the time, Elwell was not particularly interested in radio, as he was planning to make a career in designing electrical arc furnaces.)

Elwell did however thoroughly evaluate the McCarty technology and discovered that there was nothing revolutionary in what the dead inventor had been working on. Many others had tried the spark approach to radiotelephony and all reached an eventual dead end, as the transmitted signal was too noisy to be commercially useful.

This tasking did stir Elwell's interest in radio and he abandoned his work in electrical furnaces in favor of developing electrical arc technology for producing radio waves. (An arc discharge, characterized by a relatively low voltage, closely spaced electrodes and a high current, will, with the addition of tuned circuitry, produce a fairly reasonable approximation of a continuous wave.)

Elwell continued with this work and did much to develop arc transmitter technology. (The original invention is credited to Poulsen and others.) Elwell formed

a company, the Poulsen Wireless Telephone and Telegraph Company, in San Francisco in 1909, which produced a line of fairly respectable arc radiotelephone transmitters in the multi-kilowatt range for commercial purposes. The company later became known as the Federal Telegraph Company.

Before arc technology was eclipsed by the vacuum tube, Federal had arc transmitters in use all over the world and had succeeded in producing units in the megawatt power range.

*James E. O'Neal
Alexandria, Va.*

Back in the Day

I just finished reading Ken R.'s article "Classic Radio Studio Circa 1973" (Aug. 2).

Ahhh, how it brought back memories for me and probably hundreds like us who sat in a similarly equipped studio in the '60s and '70s.

*John Abdnour
National Accounts Manager/RF Systems
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Quincy, Ill.*

Write to RW

Send e-mail to radioworld@imaspub.com with "Letter to the Editor" in the subject field; fax to (703) 820-3245; or mail to Reader's Forum, Radio World, P.O. Box 1214, Falls Church, VA 22041.

◆ READER'S FORUM ◆

FM Modulators On 87.9 MHz

In [Leslie Stimson's] special report "Stations Seek Fix for Part 15 Overkill" (July 19), the third paragraph from the bottom reads:

"With Part 15 wireless devices proliferating, Starling suggests one possible solution: All such devices might be required to operate at 87.9 MHz. Though this is not currently a legal Part 15 frequency, some devices operate there now, he said."



NPR's Mike Starling suggests moving all FM modulators for satellite receivers, iPods, etc., to 87.9 MHz. Although 87.9 is not a legal Part 15 frequency, Mike would like to see the FCC Rules changed so the modulators could be put on 87.9 and not interfere with primary FM broadcast signals in the 88.1-107.9 MHz range.

Mike is a consummate professional and a good friend, but I respectfully disagree with him on this issue. Putting all modulators on 87.9 MHz would shift the interference burden to TV Channel 6 (or the successor to that spectrum after the spectrum is auctioned in 2009), lead to car-to-car interference because everyone would be on the same channel, and create an attractive nuisance for pirates.

What mobile bandito would not relish the opportunity to capture a bunch of receivers by running a few watts of power on 87.9 MHz? The temptation would be overwhelming.

*Robert Gossett
President
Communications General Corp.
Consulting Radio Engineers
Fallbrook, Calif.*

AM Should Stay Analog

I believe that AM radio would be better off remaining analog. The hash that IBOC introduces onto adjacent channels and even on alternate channels is unacceptable. It destroys the ability of an analog receiver to tune into those adjacent channels, which are covered by God-awful sounding hash.

Then there is skywave service to consider. This service to far-flung areas would be destroyed by AM HD IBOC signals. The digital HD AM signal is not capable of skywave coverage, unlike the analog signal. Many Class I and some Class II AM stations are clearly audible up to and beyond 1,000 miles in a path of darkness. With AM IBOC this skywave signal is nonexistent.

Why were the clear channels created? To provide strong skywave service to outlying areas, as well as a strong local signal. AM HD under the current IBOC standard would jeopardize or destroy this secondary coverage area that analog Class I and Class II clear channel stations provide.

So who cares? I do. I've always relished being able to tune in WLS 890, WLW 700, WHAS 840, WFAN (former WNBC) 660, WSM 650, WSB 750, WCCO 830, WWL 870, WHO 1040 and WOAI 1200 any evening on the AM dial, on any radio, wherever I might be. I still enjoy this privilege and would be loathe to sacrifice it for the sake of local HD AM.

*Robert Hubert
Atlanta*

New Home for Spare Parts

Tom Vernon's story ("BE Spotmaster Faces Extinction," Sept. 1) reminds me of my brief experiences in "manufacturing."

In 1963, I purchased two Viking Model 37 decks and a couple of foil-sense heads, and assembled them in wooden boxes for KAPA(AM), Raymond, Wash. It used these units, with foil-strip cueing, for several years.

Fast-forwarding to the early 1990s, Tapecaster had been sold a couple of times, and ended up back in the hands of Auditronics, which was then selling off the finished goods, partially-finished

Chill on the WIPO Broadcast Treaty

If you listen to CEA or NAB, you'd think the sky was falling over the issue of the World Intellectual Property Organization's Broadcast Treaty, under development by that Geneva-based organization, which coordinates IP policy among the world's nations.

As valuable as WIPO's work generally is, this treaty is a relatively minor document, and one of dubious value. Yet NAB and CEA are in vehement opposition over it, with CEA considering it another affront to consumers' media-usage rights, while NAB calls it essential to the future of broadcasting.

So far, NAB's voice seems to be winning in Washington, since the U.S. delegation to WIPO (led by our Patent and Trademark Office), is the treaty's prime supporter. But its future remains in doubt nevertheless.

Briefly, the agreement would define a new intellectual property right for broadcast transmissions, regardless of whether the content is original to the broadcaster. Thus stations could claim "compilation rights" for transmission of content copyrighted by others (such as radio networks, syndicators, musicians, songwriters or record companies). This right is intended to provide broadcasters with legal standing that could be used to prosecute unauthorized use of their broadcasts internationally.

While this sounds like a good deal for broadcasters, experts point out that the concept is not well established in the IP community, and a similar attempt at a compilation-based copyright for databases has been stuck in legal limbo for years.

Yet even if the treaty passed, it would have no real force until its provisions are enacted into local law. Numerous similar international treaties go unsigned by many countries, including the United States, and even in signatory nations, it can take years for the corresponding legislation to pass — if it ever does.

Moreover, the treaty would only make it illegal to circumvent *protected* broadcast streams, so most existing analog or unprotected digital broadcasting (such as IBOC) would not be covered anyway. This makes NAB's support of the treaty seem a bit strange, at least from a radio perspective, since it primarily applies to the protected environment of cable and satellite broadcasts, not to today's free-to-air terrestrial broadcasting.

Finally, WIPO itself is considering dropping the treaty effort, or scaling it back to cover only simple signal theft — and international signal theft at that, since most countries already have their own domestic signal-theft laws. An attempt to keep the treaty on the table may be what's behind the recent upturn of U.S. activity on the treaty.

The trade organizations should worry about more important matters, and our PTO should get back to its main job of stimulating American innovation by concentrating on its already overfilled plate of patent applications. We all have better things to do.

— RW

goods and parts.

I was working at BSW at the time and, sensing the opportunity, took an overnight flight to Memphis, Tenn.; drove into Mississippi; spent a few hours examining boxes and boxes of flywheels, belts, pulleys, screws, etc.; returned to Memphis; made a deal to acquire everything; and came home.

Several weeks later I was the proud owner of what was left of Tapecaster. Fortunately I was able to finish several units and sell them, and even fabricated a few of the popular cart winders. My wife wasn't real happy giving up the card tables in the family room, however.

For a few years we successfully sold replacement parts for the machines, but it tapered off as cart machines turned into boat anchors.

For the record, I still have lots of parts

for Tapecasters, although many of them are finding new homes with the local scrap metal dealer.

A few of the machines I finished and sold were a new model Tapecaster, and this is possibly what sank the company. It was a direct-drive unit. Unfortunately, it was way too late in the game to produce a brand-new direct-drive design, as several other companies already had similar units in the marketplace, some for over 20 years.

Today I own and operate radio stations in Grays Harbor County, Wash. In the back of my radio station are boxes and boxes of Tapecaster parts. Stop by sometime and pick up a piece of history.

*Bill Wolfenbarger
President
Jodesha Broadcasting Inc.
Aberdeen, Wash.*

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Radio World
Vol. 30, No. 25 October 11, 2006

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NEXT ISSUE OF RADIO WORLD OCTOBER 25, 2006
NEXT ISSUE OF ENGINEERING EXTRA OCTOBER 18, 2006

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Radio World (ISSN: 0274-8541) is published bi-weekly with additional issues in February, April, June, August, October and December by IMAS Publishing (USA), Inc., P.O. Box 1214, Falls Church, VA 22041. Phone: (703) 998-7600, Fax: (703) 998-2966. Periodicals postage rates are paid at Falls Church, VA 22046 and additional mailing offices. POSTMASTER: Send address changes to Radio World, P.O. Box 1214, Falls Church, VA 22041. REPRINTS: For reprints call or write Emily Wilson, P.O. Box 1214, Falls Church, VA 22041; (703) 998-7600; Fax: (703) 998-2966. Copyright 2006 by IMAS Publishing (USA), Inc. All rights reserved.

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