IBIQUITY'S NEW CODEC: HDC. Page 2

We've Got Mail
Your letters: IBOC 'misinformation,' tower pix and saving AM radio.

Thank You, Bob
Hope and radio were a perfect match early in his career.

Page 20

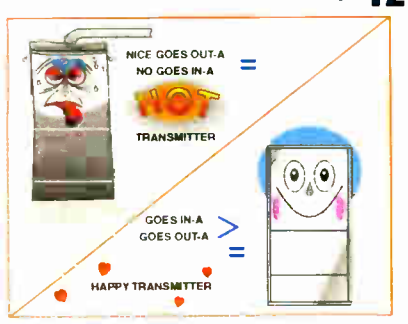
In This Issue

Radio World

$2.50 The Newspaper for Radio Managers and Engineers September 1, 2003

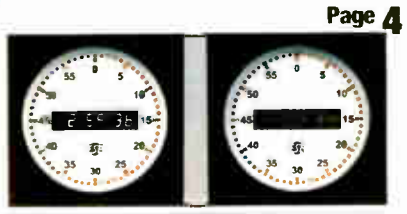
INSIDE

NEWS & ENGINEERING



GM JOURNAL

TIMELY PRIZE



NEWS ANALYSIS

LPFM: All That Fuss For Nothing?

Report Seems to Indicate That FM Dial Could Accommodate More LPFM Channel Allocations

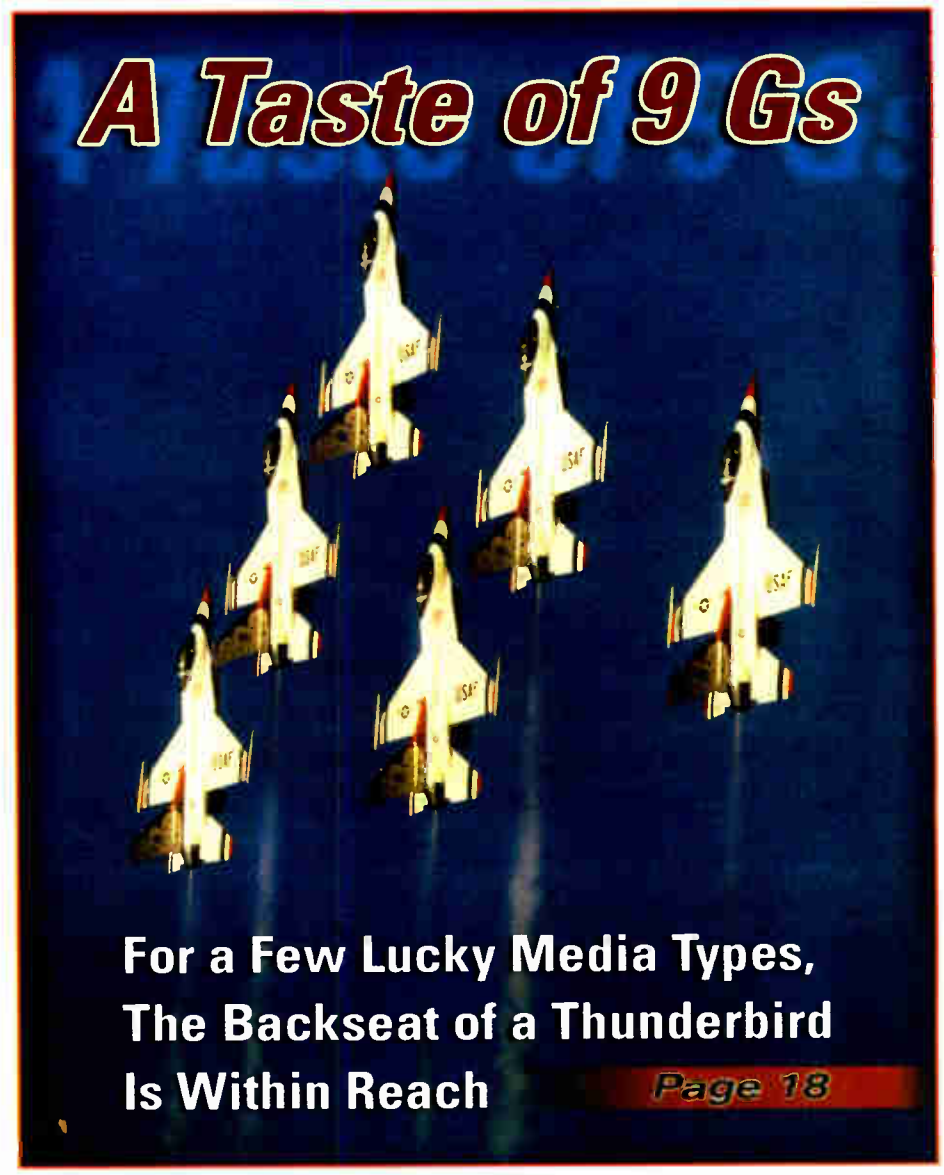
by Mario Hieb, P.E.

The FCC has released a new study that could change the face of FM radio as we know it. Radio World asked me to study the report and share my observations.

The report gives a green light to low-power FM stations that would operate without third-adjacent-channel protection to existing stations, and could open the door to more-lenient assignments of full-power FMs and FM translators. Lab tests also showed LPFMs are not likely to interfere with digital receivers; the HD Radio signals remained robust, Mitre stated.

When Radio World asked about the significance of the report, FCC Media Bureau Chief Ken Ferree said the commission was still gathering public

See LPFM, page 8 ▶



New HD Radio Codec Well-Received

by Leslie Stimson

COLUMBIA, Md. Top radio engineers from major groups and NPR are impressed with the performance of a codec they've heard in private demonstrations at Ibiquity Digital Corp. They used words such as "phenomenal," "startling" and "vast improvement" to describe the experience.

Ibiquity quietly invited the engineers to its Maryland headquarters in August to hear the codec before it was publicly identified as HDC from Coding Technologies, developers of the aacPlus codec. The chairman of the NRSC DAB Subcommittee gave a strong initial endorsement to the codec, both in comments to Radio World and in the official Ibiquity press release on Aug. 12.

Ibiquity has called HDC a "revised" codec, but at press time, details of whether that included some form of a modified PAC algorithm were not known. Coding Technologies says its Spectral Band Replication technology is part of the HDC codec as well as the Digital Radio Mondiale open standard.

Some of the engineers who heard the demo said they knew what the codec was when they heard it, others did not.

Several National Radio Systems Committee engineers who heard the codec praised the technology developer's efforts.

Engineers heard a demo of various music and talk material on CDs sent through an Ibiquity reference exciter and receiver, plus one consumer receiver. One said, "It was not a simulation using a PC."

The setup provided direct comparison of source material to analog transmission received on a Kenwood auto radio, along with digital transmissions. The digital transmissions were at 98 kbps and 64 kbps for FM for both the Kenwood auto radio and an Ibiquity reference receiver, said Journal Broadcast Group Vice President of Radio Engineering, Andy Laird.

For AM, the digital transmission was switched on the reference receiver from enhanced (35 kbps) to core (20 kbps) with the Kenwood unit operating in the enhanced mode.

In the Ibiquity AM system, the receiver initially locks onto the signal in "core" mode, providing a mono signal at 20 kbps, then builds on core to an enhanced mode, providing stereo at 36 kbps with improved frequency response, sources said.

Numerous insiders and Texas Instruments itself said the TI DSP chip used in the first generation of IBOC receivers has enough headroom to handle software upgrades needed for the improved codec. This in turn, said TI's Digital Radio Business Manager Naresh Coppisetti, will help receiver makers make their product launch schedules.

Acceptable artifacts

In separate demonstrations on different days, the engineers said they heard FM demonstrated at 96 kbps and 64 kbps. The latter is the bit rate necessary for stations that wish to split their programming and implement a secondary audio channel. NPR, Harris and Kenwood planned to begin testing that split-channel concept in August.

The engineers also heard AM at 36 kbps. Ibiquity has focused on improving the codec performance since May, when the standards-setting National Radio Systems Committee said it did not believe Ibiquity's PAC codec delivered broadcast-quality audio on AM at low bit rates. As a result, the group suspended standards-setting efforts for AM and FM.

Geoff Mendenhall, vice president of advanced product development for Harris Broadcast, said the progress was "phenomenal to the point where we are satisfied, and we think broadcasters will be too."

NPR Senior Engineer Jan Andrews described the improvements as startling.

Previously, NPR was one of the more vocal critics of Ibiquity's AM audio performance. Andrews said of the demo that he found the audio quality "very acceptable."

In a memo to stations, Andrews stated, "Assuming Ibiquity is able to deliver the demonstrated level of performance in the real world (which seems possible given that we were listening through reference

See CODEC, page 10 ▶

Station/Garden Battle Continues

by Randy J. Stine

NEW YORK A nine-year-old tower siting dispute between a college radio here and a well-known nature area remains unresolved while the sides continue talks seeking a resolution.

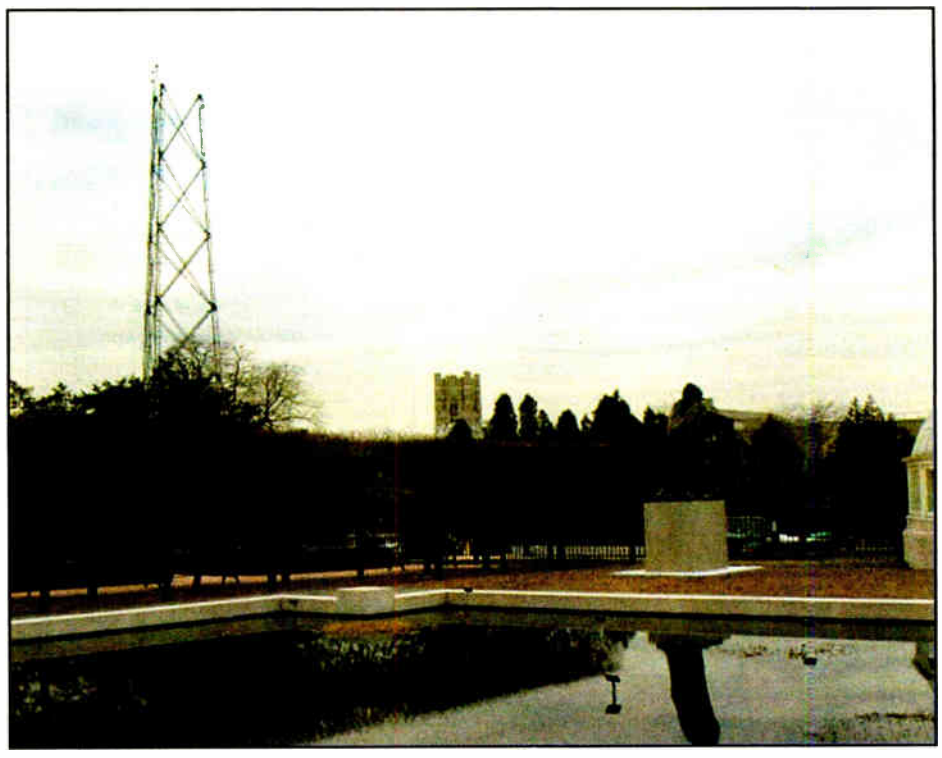
Fordham University's noncommercial WFUV(FM) continues to broadcast at half of its permitted 50 kW capacity from a partly completed tower on the school's Rose Hill campus in the Bronx. The 260-foot tower, originally planned to be 480 feet high, sits 150 feet from the property line of the New York Botanical Garden.

Garden officials claim the half-built tower degrades the experience of visitors to the National Historic Landmark. In fact, the National Park Service recently placed the century-old garden on its annual threatened list because of the tower. The final outcome of this legal battle could set a precedent for tower siting near historical areas, some observers say.

The FCC held a series of public meetings in the summer of 2002 with hopes it could help guide the two sides into a compromise and find an alternate site for the tower. The FCC's "public consultation" phase was suspended temporarily while discussions between the Garden and Fordham University focused on a potential tower site on which the sides agreed. However, officials with both institutions say the location fell through this summer because of zoning requirements.

An FCC Audio Division staffer said the matter is pending and he could not comment further.

"We are continuing discussions regarding possible tower options at this point. I would say the talks remain positive," said Denis O'Connor, legal counsel for the Garden.



WFUV's partially-completed tower is seen from a courtyard in the New York Botanical Garden.

The Garden, he said, remains committed to paying two-thirds of the cost of moving the tower to an alternate site. It has exhausted legal appeals in New York state courts to halt the project for good.

Fordham began construction of the proposed 480-foot tower in 1994. Work stopped after the Botanical Garden notified the FCC of alleged inaccuracies in the CP application submitted by the school. The tower had reached its current height of 260 feet when construction stopped. The radio station moved its antenna to the partly constructed tower in 2000 and continues to operate using special temporary authority.

Subsequently, the FCC ruled that the tower would have an adverse effect on the Garden and has not made a final decision on Fordham's CP application.

"Our preference is to still complete the tower where it stands today," said Joe Muriana, associate vice president for government and urban affairs at Fordham. "However, we remain open to further discussion with the Botanical Garden about alternate sites and are eager to explore them."

The school has agreed to lower the height of the tower from its originally planned height of 480 to 380 feet to better suit the aesthetic nature of the Garden area.

Muriana cited a change of leadership at the school as a reason for what may be a more-conciliatory stance on the tower issue. Father Joseph McShane became president of the 15,000-student university in June.

"This has been a difficult time. But as a licensee we have to keep in mind our listening audience and the ways to best serve them," Muriana said.

Fordham was prompted to move its antenna from its old location on campus atop three-story Keating Hall after the FCC proposed tighter guidelines governing radio frequency radiation exposure in the early 1990s, which were later adopted in 1997.

WFUV(FM) Tests Booster

NEW YORK In addition to facing resistance from the New York Botanical Garden to complete its radio tower, Fordham University's WFUV(FM) has angered two neighbors on the New York City radio dial with plans to add a booster to improve its signal. The two stations say WFUV has not considered potential interference with second-adjacent channels.

WFUV engineers have spent the summer testing a 600-watt booster, WFUV-FM2, atop a 392-foot bell tower of a church in Manhattan. The station hopes to extend its coverage area into Manhattan and in parts of nearby Queens and Brooklyn.

The stations are worried about potential interference from the planned booster. WFUV broadcasts at 90.7 MHz, between WHCR at 90.3 MHz and WFMU at 91.1 MHz. Those stations say they have engineering reports that indicate the booster signal will drown out their transmissions.

WFUV officials say FCC Part 74 rules governing FM boosters allow them to use one. Boosters relay the signal of the originating station's antenna on the same frequency to reach areas the main signal cannot.

"The booster is being tested to sort out any potential for interference. We are moving to a point where we will notify the commission of our intentions," said Joe Muriana, Fordham University associate vice president for government and urban affairs.

The FCC issued a construction permit to Fordham University in late 2002 to construct the booster based on WFUV engineering reports that showed there would be no interference. The booster was completed in May, Muriana said.

"Our technicians have had (the booster) on for very short periods of time to test it over the summer. We do not have a timetable for when we will turn it on full-time," Muriana said.

An engineering consultant to WFUV hoped to have more information within approximately 60 days.

Ken Freedman, station manager for non-commercial WFMU in Jersey City, said the 1,250- watt station has received interference complaints in the past few months.

"They have been so sporadic that it has been impossible to pinpoint the cause," Freedman said.

FCC rules require the licensee of an FM booster to correct any interference on frequencies outside the assigned channel.

John King, counsel for the City College of New York's WHCR, said the 8-watt Class D noncommercial station has not seen an increase in interference reports since WFUV began testing its booster antenna.

— by Randy J. Stine

FROM THE EDITOR

Caveat Emptor, Radio Style

by Paul J. McLane

One of the most enduring components of Radio World is our *Buyer's Guide* section. I've written before about *Buyer's Guide* and how we intend it to be used.

During a recent online chat on a popular listserv, one person wrote as follows: "Field reports in Radio World are sometimes written for the end user by the manufacturer's marketing department and sent to the engineer for approval; sometimes they are reviewed for editorial content and beefed up by marketing before the copy goes to RW.

"I do like the way a competing publication does their field reports," he continued. "The manufacturer does not even know it is being written until they receive a call that a copy is being e-mailed and they have a few hours to review the report for technical accuracy. They cannot change the editorial comments or text of the report. ...This makes for a very unbiased report vs. a sometimes thinly veiled promotional piece written in some engineer's name by a marketing department."

This misstates the practices of other publications and is a serious misunderstanding of Radio World's own policies. Fortunately, numerous engineers and suppliers quickly responded online to correct the misperceptions.

One writer commented, "I can't speak for anyone else, but anything with my name on the byline is written by me. If a manufacturer comes to me asking to allow a ghost review/article published under my name, I will pass, and have passed. All the reviews I have written for RW or anyone else have been of my own experience and opinion. Any engineer who does (otherwise) is diminishing his/her reputation as an objective professional and practices a disservice to the industry."

I feel the same way. Because these articles are an important part of our publication, I'd like to restate our goals and practices.

Review vs. User Report

Radio World product reviews appear from time to time in the *Studio Sessions* and *Features* sections. Each is written by an independent third party, usually an engineer or experienced columnist, who is paid by us for their article — someone with an application and the opportunity to try the product. We include "thumbs up/thumbs down" summaries with these reviews, and we press our writers to be honest in their assessments.

I am proud to be bring the practices of good reporting to my job, and frankly I think the journalistic improvements we've made here have pressed other publications to pay more attention to their own. I'll rank our reviews above anyone's in radio. They are fair and thorough.


Buyer's Guide

Companies Soundproof WDAV

I won't bore you with the details unless you want me to; I'm happy to share our product review assignment memo with anyone who wants to see the guidelines. Please note, though, that suppliers do *not* approve or otherwise control the content. Don't believe anyone who tells you otherwise. We *do* fact-check these stories with manufacturers after they are written to make sure we do not publish incorrect technical information. As with all stories in RW, I make the decision as to whether a story appears and in what form.

Another kind of article, a User Report, appears in our *Buyer's Guide* section, which is not intended to be a thorough review section but rather a resource to help you, the buyer, identify sources of equipment in a given class, such as codecs or automation systems.

The section helps you to start shopping; it doesn't finish the job. That's up to you. These articles are based on the assumption that you as engineer or manager will find it useful to know why your colleagues made certain selections.

If a Mike McCarthy or Jeff Johnson or Andy Laird or Jeff Littlejohn is willing to put his name on a story (and receive no payment for it) saying, "I like X Brand console for the following reasons," this is a testimonial worth reading.

We identify those writers by contacting the companies and asking for references. They point us to recent users. Our *Buyer's Guide* editor Kelly Brooks works with each writer to present the information in his or her own words. Not surprisingly, these articles tend to be positive. You can say the same about most reviews and equipment articles in any radio trade publication. I feel this is a reflection of the excellence that is now almost a "given" with the suppliers in our industry. But we encourage writers of User Reports to state how the company might improve the product.

My policy: *Buyer's Guide* articles are to be written by the engineer or user, and only fact-checked by the companies. Typically we can tell when an article was ghost-written, and frankly I think you can, too. Readers are pretty smart people.

To any engineer who may have been asked or tempted to participate in any ghost-writing: don't. It's not a service to anyone. We want *your* opinions.

(The short "Tech Updates" you see in *Buyer's Guide* are summaries of information provided to us by companies that did not help us identify users for full stories. Similar blurbs appear elsewhere in Radio World and in every radio trade publication that covers equipment. Again, these are intended only to help you shop. Companies do not pay us to publish those, nor do they edit or approve them; we simply fact-check when necessary. By the way, you should *see* the PR nonsense we have to take out of the original press materials sometimes.)

One other point: It would be insulting to you, the reader, if I were to assume you will buy a product because one engineer wrote a positive review or User Report in these pages. Only *you* can determine the suitability of price, features and performance of a product. Shop with care. Talk to others. Sniff around online. Ask your suppliers for full user lists or multiple references known to you. If a company makes a solid product, it should be eager to share that information.

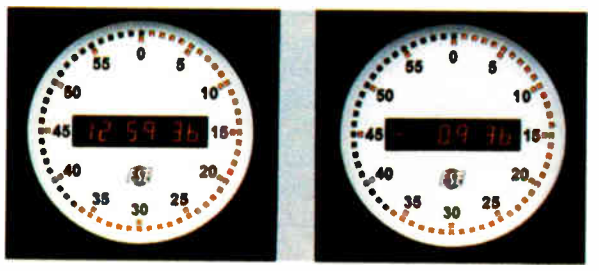
In summary, the goal of Radio World product *reviews* is to give you detailed and impartial evaluations of specific products. The goal of our *Buyer's Guide* section is to let you pick up an issue and get a flavor of the marketplace in a product class, with information about how to reach these companies and remarks from your colleagues who recently took the plunge.

Radio World is a place to start your research. We can't make the final decision; that's up to you. At the end of the day, *caveat emptor* still applies: Let the buyer beware.

NEW TECHNOLOGY • Radio World • SWEEPSTAKES •

In Radio World's New Technology Sweepstakes, Mark Bartlebaugh of Wheaton College in Illinois wins an ESE LX-5212. It's a lovely 12-inch, six-digit digital clock/timer slave with an analog second hand.

The clock is designed to read time code from any of four inputs (SMPTE/EBU, ASCII, IRIG-B or ESE), and it can act as a stand-alone clock.



Three second-hand modes ("Accumulate," "Eliminate" and "Single") and Time Zone Offset are set by the user via rear-mounted DIP switches. Six one-inch-high LEDs display hours, minutes and seconds. Simultaneously, 60 discrete LEDs simulate the "analog" sweep of the second hand. Twelve other LEDs, located around the dial at five-second increments, stay lit and serve as reference indicators.

The unit is housed in a wall-mount enclosure; a rack mount option is available. Retail price: $895.

You can sign up for our contest at *www.rwonline.com*.

New Market Definition Hurts Some

A Small Broadcaster Comments on the Effects of New Ownership Rules

In the media ownership debate, the impact of radio consolidation after passage of the Telecommunications Act of 1996 has become the example used by those who oppose further relaxation of station limits.

Members of Congress have introduced bills to overturn portions of or all of the FCC's new ownership rules, and several organizations expected to file court appeals.

Senate Commerce Committee Chairman John McCain has held several hearings on various aspects of media consolidation this year. The Arizona Republican, who did not vote for the Telecom Act, has focused on radio in particular.

Alex Kolobielski testified before the Senate Commerce Committee in July. Kolobielski, a career small-market broadcaster, is president and chief executive officer of First Media Radio LLC, headquartered on Maryland's Eastern Shore. What follows are excerpts of his testimony on the new radio market definition and the likely effects of the new rules on small-market stations.

Since January of 2000, First Media Radio has acquired 13 FM and AM small-market radio stations in Maryland, Pennsylvania, West Virginia and North Carolina. In addition, we have radio station acquisitions pending in North Carolina and Virginia. With the exception of three of our stations, all First Media's radio stations are located in unranked, non-Arbitron markets. ...

The biggest problems faced by small-market operators are attracting good staff to operate profitably and adequate capital to grow. Experienced radio employees usually shy away from small markets, seeking more lucrative opportunities in larger cities. ...

Small stations in small markets are truly the voices of our local communities. ... On average, 75 percent of the programming we present every day on our stations is locally originated. Over 90 percent of our advertising is drawn from businesses in the communities we serve. ...

On the sales side, we have between four and six local sales reps per market cluster. The advertising rates our markets will bear are a fraction of those in nearby large markets, even though our fixed costs for electricity, equipment and software are the same as those faced by stations in the larger markets.

For instance, the stations in our closest cluster to the nation's capital, Easton, Md., find that for a 60-second spot they can charge no more than 5 percent of the rate charged by the top 20 stations located in Washington.

As you know, since 1992, the FCC has been defining radio markets by reference to radio station contours. This definition was introduced at the time the FCC liberalized its local radio ownership rules to allow one entity to own more than one AM and one FM station per market. When Congress expanded the local radio caps in 1996, the FCC retained this contour-based approach to define which stations constitute a market for purposes of applying the new caps.

A contour-based approach to defining markets is fair for all stations, no matter what the market size. It consistently measures the strength and reach of a particular station's signal and the confines of its advertising market. Moreover, contours may only be changed after an extensive FCC process involving the submission, review and then grant of construction permit applications.

This process usually takes at least six months before a radio owner receives FCC permission to modify its facilities. The physical construction usually takes many more months. Thus, with a contour-based approach, other competitors in a market usually have ample warning before changes occur, and they can also rest assured that changes will only take place as part of an FCC-supervised and -regulated process.

The FCC has now decided to define radio markets in Arbitron-ranked markets based on Arbitron's market definitions. This approach will make the legality of existing station clusters vulnerable to changes in Arbitron methodology, which unlike the FCC's construction permit process, do not take place in an open public forum.

Moreover, stations subscribing to Arbitron may designate whether they are to be listed in one Arbitron market or another. While the FCC's new proposal says a group owner must wait two years before it can rely on the benefit of any such change to expand the number of stations it may own, the FCC proposal does not consider the detrimental and unintended consequences such changes may have on other station clusters in the market. Those stations may easily find the number of stations in their market reduced and themselves thrown into noncompliance through no fault of their own.

For smaller communities in non-Arbitron markets, the FCC has also proposed to abandon the contour-based approach. Instead, the FCC has launched a rulemaking to substitute definitions based on political boundaries, or even cellular market boundaries, neither of which bear any relationship to radio broadcast signal strength or the advertising markets stations serve.

Such a system would put small-market radio operators at risk for unintended consequences. ... On an interim basis, in these smaller markets, the FCC has said it will continue to utilize contours to define markets but has put in place several protections to avoid the anomalies that occurred. ...

The FCC's new market definition and its proposed change for non-Arbitron markets will drastically disrupt the radio industry, particularly since the changes are being put in place at a time when, unlike 1992, the FCC is not liberalizing the local radio caps. The industry has adapted to the current radio market definition, and entities such as First Media, that entered the market since 1996, have based their competitive strategies on the existing approach.

These new entrants and other growing companies must have the opportunity to develop efficient clusters of stations under the same rules that have been used to build the existing mega-companies. Small-market and small-company players, in particular, will be disproportionately harmed by any change in market definition.

Small-market and small-company players, in particular, will be disproportionately harmed by any change in market definition.

Large, mega-owners can spread the risk of a major change across one or more of their markets. Small owners seeking to compete with them cannot. ... So, if Congress were to send any kind of signal to the FCC or adopt legislation in this area, what is it that small-market players, like First Media, would want?

- At least in small markets outside of ranked Arbitron markets, allow radio operators to continue to define markets based on contour overlaps just as we do today. ...

- If Congress disagrees and believes some changes to the contour-based approach are necessary, we think it should make permanent the interim policy the FCC has proposed for small, unranked markets. That approach involves continued use of contours but with adjustments that address what have been seen as some of the more troublesome aspects of the contour-based system.

- Under these adjustments, the FCC ... will exclude certain stations a buyer proposes to buy from the total number of stations that it counts in defining a market. In addition, to address the large signal anomaly, the FCC will exclude from the count of stations in a market any station that has a transmitter site more than 92 kilometers or 58 miles from the area of common ownership of the stations being acquired, an approach that accurately depicts stations' true markets

- Do not apply any new modified market definition approach to pending applications that were filed before June 2, 2003. ...

- Grandfather all non-conforming clusters. At least for smaller companies, there should be unlimited opportunities for them to bring in new investors, grow or go public and at the same time be able to transfer their station clusters intact.

Correction

The telephone number for the Lyme Disease Association was wrong in the Aug. 1 issue of Radio World. The correct number is (888) 366-6611.

◆ NEWSWATCH ◆

Congressional Veto Could See Floor Action

WASHINGTON Sen. Byron Dorgan, D-N.D., believes he has enough votes in the Senate to pass a resolution of disapproval of the FCC's new broadcast ownership rules.

Dorgan said he would bring the measure directly to the floor for a vote — bypassing action by the Senate Commerce Committee — in early September. Committee Chairman John McCain, R-Ariz., has agreed to the plan, Dorgan said.

Dorgan said once the resolution reaches the Senate floor, it would have 10 hours of debate and the item could not be filibustered or amended. The procedure provides for expedited consideration of the resolution, which must be approved by both the Senate and the House and signed by the president.

If both houses pass the resolution, the president has 10 calendar days to veto the measure. If he does so, the bill would return to Congress, which would then have an additional 15 days to consider a veto override, which would require a two-thirds majority vote.

The resolution is sponsored by a bipartisan group of 21 senators, including Trent Lott, R-Miss., and Russ Feingold, D-Wis. Twelve of the co-sponsors are members of the Senate Commerce Committee, a majority of that body.

The rules were slated to go into effect Sept. 4, 30 days after publication in the Federal Register. Sept. 4 also is the deadline for parties to file petitions asking the FCC to reconsider all or portions of the rules; Oct. 4 is the deadline for appeals to be filed in federal court.

Powell: Rhetoric 'Shrill'

WASHINGTON In an opinion piece written for the New York Times, FCC Chairman Michael Powell said the debate in Congress over the new media ownership rules passed by the commission has gotten off-track.

The rhetoric of some lawmakers has become "shrill," Powell believes, and focused on content, an area he doesn't feel the agency should regulate.

"Some say the problem is media concentration, and point out that only five (TV networks) control 80 percent of what we see and hear," Powell stated. "In reality, those five companies own only 25 percent of more than 300 broadcast, satellite and cable channels, but because of their popularity, 80 percent of the viewing audience chooses to watch them.

"Popularity is not synonymous with monopoly," he wrote. "A competitive media marketplace must be our fundamental goal, but do we really want government to regulate what is popular?

"At the same time, the current debate has ignored a disturbing trend the new rules will do much to abate: the movement of high-quality content from free over-the-air broadcast television to cable and satellite.

He encourages a national debate on media ownership, but stressed it should be kept "in focus."

Hollings to Retire

WASHINGTON Sen. Ernest "Fritz" Hollings of South Carolina, ranking Democrat on the Senate Commerce Committee and its chairman when his party controlled the Senate, plans to retire at the end of his current — and seventh — term in January 2005. The 81-year-old will not seek re-election next year, adding to his party's uphill fight to regain control of the chamber in 2004.

Hollings has been vocal in his opposition to consolidation and is a sponsor of legislation to roll back the TV audience cap to 35 percent.

NAB President/CEO Eddie Fritts characterized Hollings as "a Capitol Hill legend, with unquestioned integrity and a fierce independence that has served his country and his South Carolina constituents exceedingly well." Fritts stated Hollings has been "a friend to free, local broadcasting for 35 years."

At his announcement in Columbia, S.C., Hollings stated, "I'm still working around the clock for the next year and a half, and of course after that I'll be looking for a job. But you can see it's not easy to get one, by the time I go out and work and make a living."

At age 26, Hollings was elected to the South Carolina House of Representatives. In his second term, his peers elected him speaker pro tempore, a post to which he was reelected in 1953. Two years later, he was elected lieutenant governor. In 1958, at 36, he was elected governor, the youngest governor of that state in the 20th century. He served in that post until 1963.

Hollings was elected to the U.S. Senate in 1966 to fill the unexpired term of Olin Johnston.

Spectrum Fees Part Of McCain Bill

WASHINGTON As he said he would, Senate Commerce Committee Chairman John McCain introduced a revamped version of his campaign finance bill from last session.

The "Our Democracy, Our Airwaves" Act would require broadcast licensees to air a minimum of two hours per week of candidate- or issue-centered programming before a primary or general federal election.

The legislation also would establish a program to provide vouchers to candidates and national committees of political parties. The vouchers would be used for political ads on radio and TV broadcast stations, paid for via an annual spectrum fee levied on stations.

The bill would require broadcast television and radio stations to provide candidates and parties with non-preemptible advertising time at the lowest rate provided to any other advertiser.

"This legislation is designed to increase the flow of political information in broadcast media and to reduce the cost to candidates of educating the electorate on their candidacy," McCain said.

Brooklyn Pirate Faces Hefty Fine

WASHINGTON The FCC has reaffirmed a $10,000 fine against the Rev. Yvon Louis of the Calvary Tabernacle church in Brooklyn, N.Y. for operating an unauthorized transmitter on frequencies 93.7 MHz, 88.1 MHz and 90.1 MHz.

The FCC warned Louis in 2001 to stop broadcasting without a license. Louis said he operated the stations on weekends using a Part 15 low-power transmitter. The commission said his transmissions exceeded field strength limits for non-licensed, low-power Part 15 transmitters. The agency reaffirmed the fine because it said Louis continued to operate the unauthorized stations despite several warnings.

WBLK Fined for Airing Caller

WASHINGTON The FCC fined Infinity's WBLK(FM), Buffalo, N.Y. $4,000 for apparently violating the rule that prohibits a caller to be placed on air without prior disclosure.

The case stems from June of last year, when Brenda Tanner complained to the FCC that the station aired a conversation without her knowledge. Tanner was working for a cable channel that was in Chapter 11 reorganization. Tanner said a station DJ asked her several questions about the future of the firm, job security of employees and the "possibility of non-payment of bills or cable theft."

In its response to the FCC inquiry, Infinity said it did indeed air the call without first telling Tanner it was doing so, going against a written company policy on the subject. Infinity said it disciplined the DJ and warned other employees. The broadcaster considers this an isolated incident and argued that a fine was unwarranted because it had taken steps to fix the situation.

The FCC said the violation had occurred nevertheless.

Orlando Leads NAB's Lobbying Efforts

WASHINGTON John Orlando is the new head of NAB's lobbying division. Orlando has been acting head of the Government Relations department since Jim May left to head the Air Transport Association in February.

Orlando joined NAB in January 2001 as senior vice president and now has been promoted to executive vice president of government relations. Previously, Orlando served as vice president of CBS Washington, where he was responsible for day-to-day operations.

From 1989-93, Orlando was chief of staff for the House Commerce Committee, where he oversaw passage of the 1992 Cable Act and numerous other pieces of legislation. Besides directing Commerce Committee staff, Orlando led the congressional staff of Rep. John Dingell, D-Mich., and the Subcommittee on Oversight and Investigations.

The Best Just Got Better!

With new rock solid, fully digital modem technology, the Matrix is the most reliable, best sounding codec available. And now the Matrix offers another tool for your remote kit: The GSM Wireless Module.

New Built-in GSM Phone.
New Aggressive Algorithm delivers 7 kHz on GSM.
New Error Handling Technique.
New External Antenna.
New Increased Power for More Reliable Connections.
New Remarkably Stable Modem Technology.

All this adds up to better stability, improved audio, and greater flexibility. Already own a Matrix? ***Call us and we'll upgrade you to the newest modem technology for FREE!*** Plus we'll be happy to set up a demo of the new GSM module.

Here is what some of our numerous Beta Testers had to say:

Clear Channel Director of Engineering for St. Louis Daryl McQuinn said: **"Sounds much better than a bad [RPU], almost as good as a good [RPU], and way better than you should ever expect from a cell phone remote!"** but all KLOU's Program Director Al Brock could say was, **"Wow!"**

Shaun Kassity from Salem Communications' 104.7 The Fish in Atlanta: **"Thanks to Matrix GSM we had the best sounding remotes ever on our station!"**

Steve Kirsch of Silver Lake Audio: **"The feed was rock solid. I'm very impressed—it sounds much better than I thought it would."**

Collin Mutambo, Radio Simba, Kampala, Uganda: **"We are indeed quite impressed."**

But our personal favorite, from Jerry Dowd of Jefferson Pilot's WBT in Charlotte, NC: **"We hope to keep the betas until you get nasty with threatening letters."** Thanks Jerry. We'll take that as a compliment!

Testing has been successful in 25 US states and on 6 continents with more results coming in every day. The Matrix with the optional GSM Module delivers 7 kHz on GSM wireless. Now accepting orders.

Call us today at 800-237-1776 to learn more about the Matrix!

COMREX

19 Pine Road, Devens, MA 01432 USA
Tel: 978-784-1776 • Fax: 978-784-1717 • Email: info@comrex.com • www.comrex.com

LPFM

▶ Continued from page 1

comments and it was too soon to tell what might come of it. Citizen groups and LPFM supporters hope the findings will persuade the agency to relax the channel protection rules and allow more low-power FM allocations in markets.

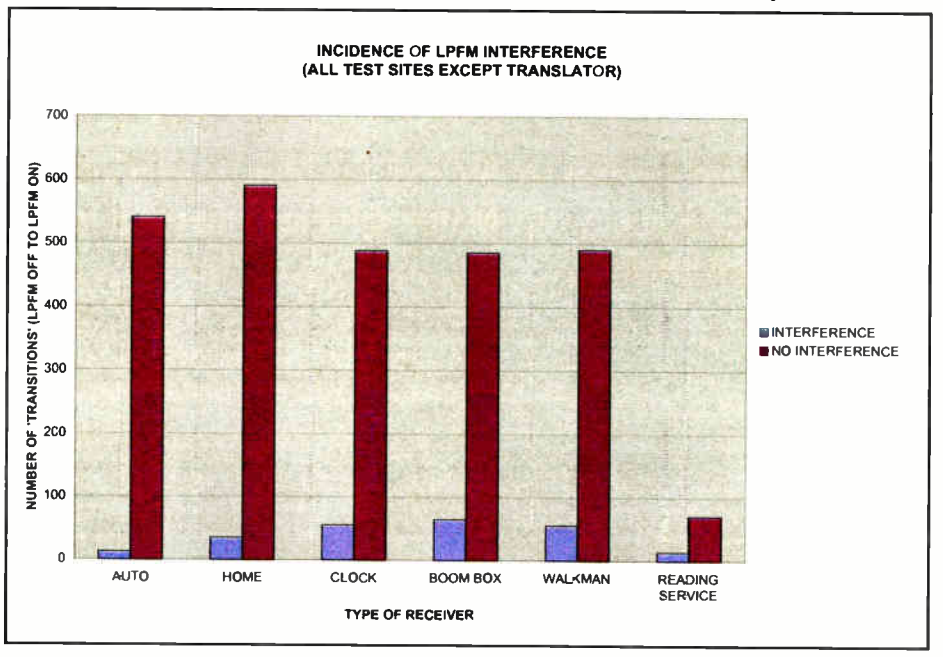
LPFM supporters are likely to lobby Congress to raise the issue again, taking advantage of the current interest around media policy reform. Lawmakers will be focused on upcoming elections, which may or may not help their cause.

As of late July there were 744 LPFM permits issued and 220 stations on the air, according to the FCC.

Former FCC Chairman Bill Kennard, a Democrat, exerted a major effort to push LPFM through in 2000 as an answer to some concerns about radio consolidation. NAB fought those efforts, making LPFM the most heavily lobbied issue for radio, second only to radio issues in the Telecom Act, according to NAB.

The issue doesn't seem to enjoy the same attentiveness from Republican Chairman Michael Powell.

Broadcasters were pondering the results after the Mitre report was released. One large question is why Mitre did not use an engineering firm that specializes in broadcast issues. A broadcast engineering firm might have approached the test differently. We presume time, money and available resources at the time played parts in this choice.



At each test point, engineers measured interference with the LPFM transmitter turned off, then on. Each time is counted as a 'transition.' This was repeated for each power level. For example, for the auto receiver, the transmitter was turned on and off more than 500 times.

The report does not say that LPFMs would not cause *any* interference; rather, it refers to "insignificant interference." NAB was reviewing the report; a spokesman said it appears the report confirms that some interference would occur as a result of LPFM.

Unanswered so far is what "insignificant interference" means to the average radio station. Most engineers would say *any* interference is not good.

Directive from the Hill

The interference report has a long history.

On Oct. 25, 2000, Congress passed HR 4942, Section 632(b), which required that the FCC "conduct an experimental program to test whether low-power FM radio stations will result in harmful interference to existing FM radio stations if such stations are not subject to the minimum distance separations for third-adjacent channels." The result of this study is the recently published 729-page report created by the Mitre Corp.

Mitre designed the tests and selected Comsearch, an Ashburn, Va., telecommunications consulting firm, to perform the field measurements. They were made in the fall of last year at seven individual low-power FM transmitter sites selected to cover a range of geographic, population density, market size and program material combinations.

Comsearch conducted trials in six markets and tested six receivers (see sidebar). The study consisted of LPFM stations operated at power levels of 10 and 100 watts at antenna heights of 3 and 30 meters.

Comsearch submitted its final measurement data report to Mitre in March, along with digital audio recordings of receiver audio made at each measurement location. Mitre studied the field measurements and recordings to determine if signal degradation occurred. A theoretical analysis also was performed to ensure that the measurements were consistent with established engineering principles.

Two antenna heights

Mitre concluded that LPFM stations could be operated on third-adjacent channels with respect to existing primary stations, provided that distance separations were maintained between any LPFM station and receivers tuned to the primary station. These required separations were a few tens of meters in the best case, to slightly more than a kilometer in the worst case.

The engineering firm determined that, for an LPFM transmitter with effective radiated power of 100 watts or less and an LPFM antenna height of 30 meters or less, no harmful third-adjacent LPFM interference would exist outside of an area with a radius of 1,100 meters from the LPFM antenna.

The 1,100-meter separation value applies to LPFM locations that are near the protected contour of the primary station. In other cases where the

See LPFM, page 10 ▶

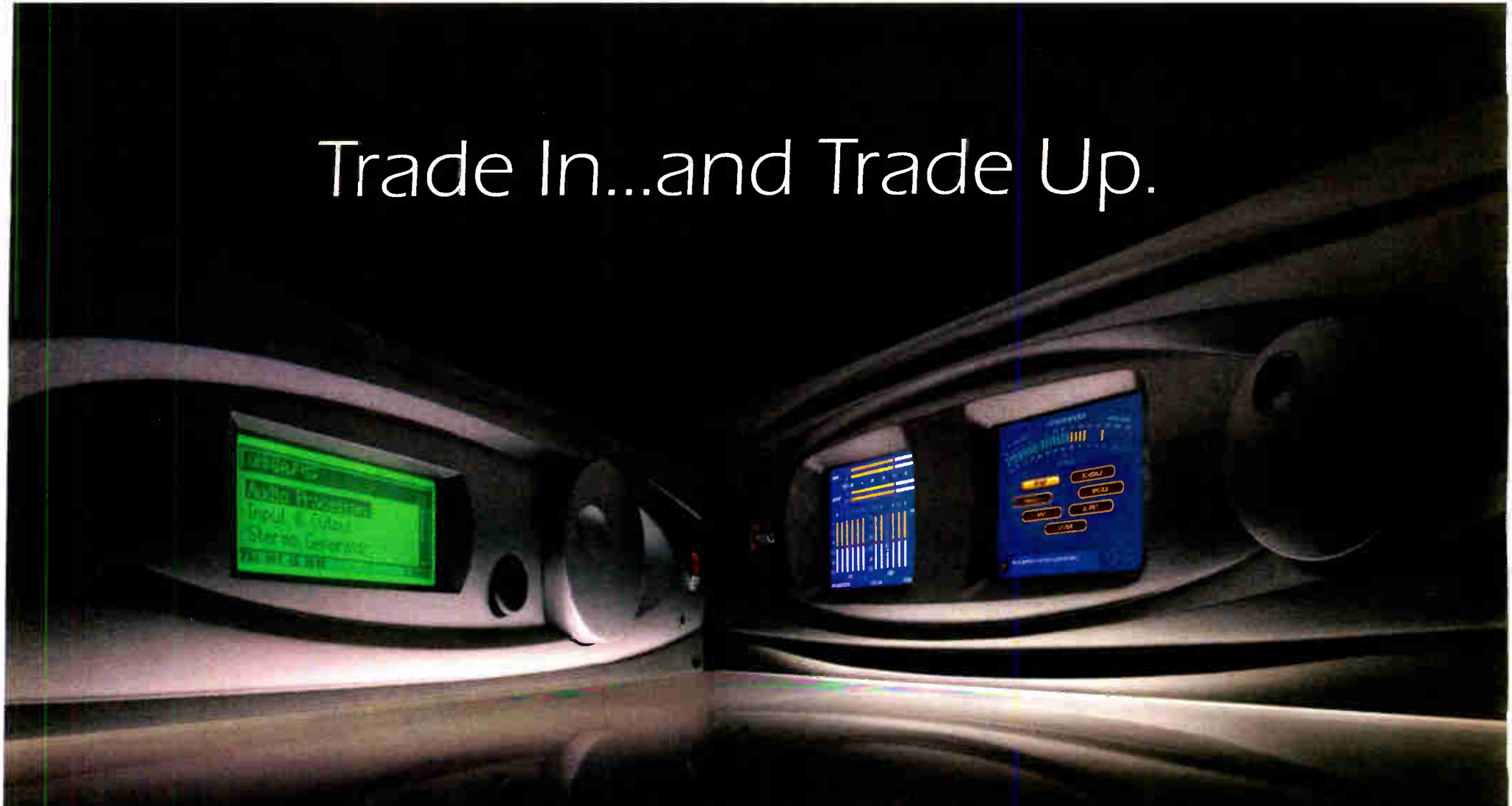
The "full-power" FM primary stations that were tested for interference were:

WCCC, Avon, Conn. (Class B)
WCME, Brunswick, Maine (B1)
KNOW, East Bethel, Minn. (C)
KGAC, Owatonna, Minn. (C1)
KSFM, Winters, Calif. (B)
KFRC, Benicia, Calif. (B)

Six commercially available FM receivers were tested:

Automobile Radio: "Premium" AM/FM stereo receiver, standard equipment in the 2001 Ford Expedition
Home Receiver: Kenwood Model VR-605
Clock Radio: RCA Model RP3755
"Boom Box": Sony Model CFD-F5000
Personal Radio: Sony Walkman Model SRF-M35
Subcarrier Receiver: Success Model ML922 RSVI receiver, furnished by Minnesota State Services for the Blind

Trade In...and Trade Up.



You've been secretly lusting after the smooth, silky sound of an Omnia-6 audio processor. Now, the object of those affections can easily be yours. For a limited time, upgrade to the sound top broadcasters choose more than any other and get a Spring cleaning bonus from Omnia.

Here's our offer: Purchase an Omnia-6fm – or the new Omnia-6hdfm audio processor for HD Radio and DAB – and we'll give you an Omnia-3fm FREE (with the trade-in of your previous FM audio processor*). Just call us when your new Omnia-6 arrives, and we'll tell you how to receive your award-winning Omnia-3fm.

You can't lose with this deal. Not only will you blow your competition away with the fantastic presence and punch of your new Omnia-6, you'll have a FREE Omnia-3fm to use as backup, or to upgrade main processing on another station – or to make your home stereo sound really cool.

There's no better time to trade up to Omnia, but hurry... unlike the great sound you'll get from your Omnias, this offer won't last forever.

Omnia
A Telos Company

omniaaudio.com

Participating Dealers: Bradley Broadcast Sales- (301) 682-8700
Broadcasters General Store - (352) 622-7700
Broadcast Supply Worldwide -(800) 426-8434
Crouse-Kimsey Company - (800) 433-2105
Harris Corporation - (800) 622-0022
Lightner Electronics, Inc. - (866) 239-3888
SCMS - (800)438-6040

* Fine Print: Free Omnia-3 Offer expires August 31, 2003. Trade-in processor must be removed from main or current backup use, and be in serviceable condition –inoperable systems will not qualify. Trade-in must be authorized by Omnia Support or Sales Return Authorization number, shipment pre-paid. Offer cannot be combined with any previous or existing Omnia offer. For complete set of rules, conditions and qualifying processors see omniaaudio.com/upgrade or call (216) 241-7225

LPFM

▶ Continued from page 8

LPFM station is closer to the primary station, this radius will become much smaller — on the order of tens of meters, to one or two hundred meters, depending on the proximity.

In the measured data, LPFM interference did not strongly correlate with variations in terrain or program material type. Mitre concluded that the measurements also did not show a strong dependence on LPFM antenna height, though only two antenna heights were tested. Perhaps this is true at a test site with flat terrain; but it would be interesting to see if the same conclusion was reached for a mountainous terrain.

In terms of the impact of an LPFM station due to interference on the audience of a primary station, in the worst case measured, the fraction of the protected coverage area of an existing station that would be subjected to harmful interference was 0.13 percent. In most other cases, this fraction was much smaller.

Mitre also looked at the potential impact that third-adjacent LPFM stations might have on digital modulation, or in-band, on-channel digital radio. This study was performed in the laboratory only, and showed that the Ibiquity Digital IBOC system is robust and performed about as well in the presence of LPFM signals as the analog car radio used in the tests.

As a result, interference from LPFM stations to digital receivers is not likely to occur at a distance of more than 130 meters, even at the primary protected contour distance, Mitre noted.

The engineering company also performed a study to determine the effect of potential third-adjacent LPFM interference to an FM translator. Another interesting choice was that Mitre only tested one FM subcarrier at one location. In the world of interference, FM subcarriers are likely to take a hit first from LPFMs before full-power stations.

Translation

During the field tests, the LPFM antenna was placed in the main beam of the translator receiver's antenna at a distance of about 450 meters. The LPFM power was varied from zero to 100 watts. No harmful interference was seen for an LPFM power of 2 watts or less at that distance, in the main beam of the translator receiver.

Regarding interference to FM subcarriers, often used for radio reading services and other ancillary services, there was no significant LPFM interference to the radio reading services receiver when it was located more than 80 meters away from the LPFM antenna. However, at some distances greater than 80 meters, the radio reading service signal was degraded even in the absence of LPFM transmissions.

In some ways, the Mitre report is the Seventh Wonder of Broadcast Engineering — the data analysis is deep and exhaustive. However, it lacks a "real-world" touch.

For example, I can't agree with the Mitre conclusion that antenna height has no strong effect on interference. This is only true if antenna height doesn't affect signal propagation, which runs counter to the well-established FCC F(50,50) curves. Incidentally, Mitre came to this conclusion from testing only two antenna heights, the tallest being 30 meters.

Mitre determined signal degradation by recording field audio and listening to it back in the lab. Audio degradation was then noted as "significant" or "non-significant." It is not known if Mitre measured the status of the primary station stereo pilot, or reviewed the audio for transitions from stereo to mono, as might occur in interference scenarios.

Also, FM subcarriers would be more susceptible to adjacent-channel interference than program audio. Mitre made its broad conclusion on interference to subcarriers based only one test scenario of a 67 kHz audio subcarrier.

If I were Mitre, I would first hire a good broadcast engineering consultant to help design the tests. I would take more measurements and would definitely include a test site in a mountainous area and one in an area plagued with multipath interference.

I also observed an inconsistency in terminology. The protected contour of the full-power primary station in each test area is sometimes referred to in the report as the "protected F(50,50) contour" or "protected service contour," but is more often referred to only as the "F(50,50)" contour. This lack of consistency in terminology is confusing to the reader, with the latter description being virtually useless.

Because many of the measurements are referenced to these contours, a more definitive description would be of the formats used by the FCC, such as "*1 mV/m* F(50,50) contour" or "*60 dBu* F(50,50) contour," which contain the reference signal strength parameter. Also, because this nomenclature is not rigorous and because several different classes of stations were tested, the reader is left to guess whether Mitre used the correct field strength for the "protected service contour" calculation.

The Mitre report is available online at *www.fcc.gov/cgb/ecfs* under MM Docket No. 99-25. Public comments are due Sept. 12.

Leslie Stimson contributed to this report.

Mario Hieb is a Salt Lake City-based consulting engineer: he was frequency coordinator for the 2002 Olympic Winter Games. RW welcomes other points of view.

Codec

▶ Continued from page 2

exciters and receivers and one consumer receiver), I believe there will be compelling audio quality incentives for stations to adopt HD Radio."

Another private demo was planned for NPR in August.

Laird said, "All of my complaints are addressed. The FM system at 98 kbps is truly CD-like with all types of programming, and the 64 kbps is very close."

For AM, the codec artifacts were "greatly diminished." He said the performance of the improved codec at the 20 kbps core mode is much better than the previous codec's at 35 kbps.

"The AM system is now a real pleasure to listen to, even with very complex, high-quality source material. It has great clarity," said Laird.

Also of note to broadcasters, he said, "We tested several real-world broadcast situations involving ISDN remotes and other bit-rate source material. The new Ibiquity codec passes this with very little additional degradation."

Clear Channel Radio's Director of Engineering Services Jeff Littlejohn called the demo "a vast improvement over what we heard previously. The codec had very few artifacts, even at 20 kbps."

Greater Media's Vice President of Radio Engineering Milford Smith, chairman of the NRSC DAB Subcommittee, said, "In my opinion, it's fixed. On AM, the improvements were spectacular. And FM was significant."

Other sources said the previous codec, PAC, contained artifacts on AM at low bit rates that were distracting and obvious, so much so that listener fatigue came into play. "No one focused the (PAC) design team on artifacts. They were focused on frequency response," said one source close to Ibiquity.

Standards 'pause' nearing end?

Asked if the NRSC would resume standards setting, Smith said he and colleagues on the NRSC "would give very serious consideration to resuming" the process.

Ibiquity would be obliged to conduct audio quality tests with the new codec, Smith said, so that NRSC could be confident the codec "is at least as good as the one that was originally used," meaning AAC.

The pause also affected subgroups working on different standards-setting aspects of the IBOC technology, including one working on the interfaces among the transmitted signals, the receiver and ancillary data services so future services such as on-demand traffic or weather reports function correctly.

Ibiquity Cuts More Employees

COLUMBIA, Md. The staff of Ibiquity Digital Corp. is shrinking. A total of 32 employees left the technology developer in July, sources said, leaving roughly 80. Included in the number who have departed are Glynn Walden and two other top managers, laid off this summer as reported earlier.

The cuts were said to be spread evenly between Ibiquity's locations in Columbia, Md. and Warren, N.J., and included many PAC team members, such as Deepen Sinha, director of audio development, said to be PAC team leader, and O'Connell "Ben" Benjamin, who, as senior vice president and co-chief operating officer, headed the Warren office, formerly headquarters of Lucent Digital Radio.

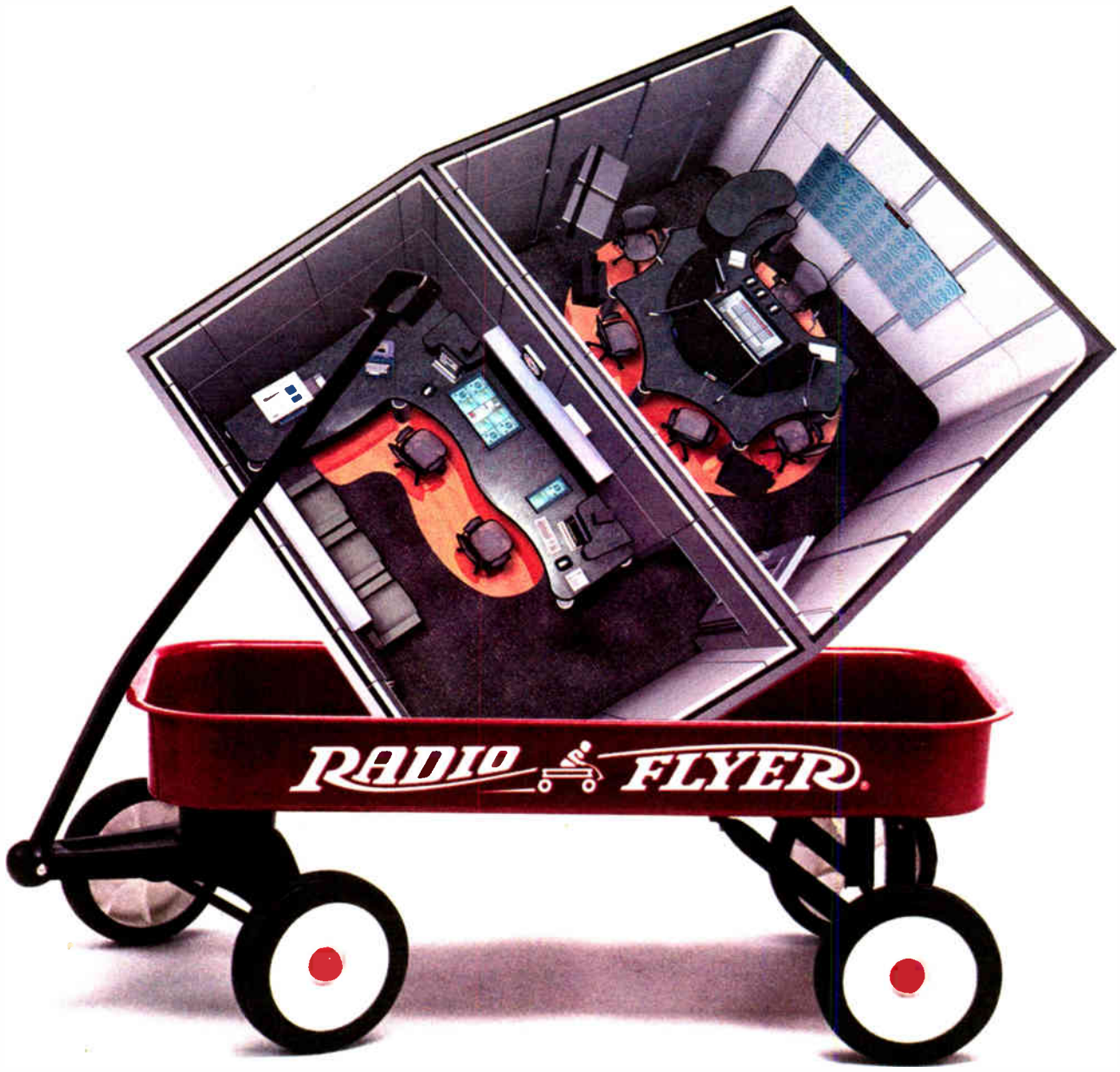
Also reportedly gone is Thom Linden, vice president of data development and architecture.

Sources said the cost trimming should allow Ibiquity to stretch its cash on hand to take the company through the end of the year or possibly into the first quarter of 2004, and predicted it would continue to try to raise more funds through investors and seek new sources of capital.

Ibiquity declined to comment on the reports of personnel changes.

— Leslie Stimson

WHO SAID YOU CAN'T TAKE IT WITH YOU?



Now that you know we save you precious time and endless hassles by building our pre-engineered studios in a factory and delivering them to your door when you need them, isn't it nice to know that you don't have to leave your investment behind when you move, consolidate, or reorganize?

TOTAL DESIGNS BY

NCC

FABRICATED & INSTALLED BY

ACOUSTIC SYSTEMS

You'll find our studios, ergonomic technical furniture, silent airflow delivery, total cable management, and guaranteed acoustics everywhere — from the smallest public station to the planet's largest radio facility.

NORTHEASTERN COMMUNICATIONS CONCEPTS, INC. / NEW YORK CITY

(212) 972-1320 ***www.nccnewyork.com***

Take Revenge on the Spam Bots

by John Bisset

Many stations and contractor engineers need to provide a public e-mail address on their Web site so users can contact them. However, leaving your full address in print or even using a regular link like "E-mail Me!" but using a "mailto:yourname@yourstation.com" in the HTML code will inevitably let your address be harvested by a "spam bot." Soon enough, you'll be drowning in spam.

Even getting fancy often doesn't work; making your address read "yourname at yourstation dot com" won't do, as the spam bots are constantly refined to account for such tricks.

However, Aaron Read at Broadcast Signal Lab in Massachusetts has discovered a free, nifty Web site that shows you how to encode your e-mail address using javascript on your site. All that is publicly available for a spam bot to harvest is a string of meaningless numbers.

When a link is actively clicked on (something spam bots can't do), the browser acts as if a real e-mail address was there; the user's e-mail program of choice will open to compose a message to a real address.

It's a dirt-simple process. Just go to *www.jracademy.com/~jtucek/email/index.html* and follow the steps. To see this in action, go to Aaron's site's contact page: *www.broadcastsignallab.com/contact.php3*

He has a special bonus in that the e-mail addresses are not real to a spam bot, but any intelligent person will recognize the "fake" addresses he uses in the text (not the javascript part) and interpret them as they should be.

If a user has disabled javascript, they can always just call Broadcast Signal Lab. It's been Aaron's experience that, statistically, few users disable javascript; many who do are hard-core Net geeks and they'll likely appreciate your anti-spam measures.

Fig. 1: A Thermostat for Controlling a Blower System

Remember, this only works at the critical junction: keeping your address off the spam lists in the first place. If you're already getting a lot of spam, it's too late; this process will do nothing for you. You'll need to get a new address and be more vigilant in protecting it in the future.

Aaron Read is a staff engineer at Broadcast Signal Lab in Medfield, Mass. Reach him at *aread@broadcastsignallab.com.*

★ ★ ★

Walt Jamison is retired after 30 years with Fisher Broadcasting, now Fisher Communications. We met after I gave a talk to the Society of Broadcast Engineers Convention in Seattle a couple of years ago.

Walt wrote with comments about the July 16 *Workbench* column, the subject of which was transmitter cooling. Although he agrees with what was written about the importance of moving an adequate amount of cool air through a transmitter, Walt is not a fan of thermostat-controlled exhaust fans, as mentioned in connection with Fig. 1.

During cool weather, the on-off cycle of the fan causes temperature cycling of the transmitter components. Now that ceramic envelopes have replaced glass for power tubes, Walt expects that the temperature cycling is more serious for solid state transmitters.

Walt's recommendation: a proportional damper combined with a constantly running blower, to maintain a positive pressure across the transmitter and in the building and a constant temperature in the transmitter air space.

In addition, Walt has used high-efficiency bag filters to filter the outside air, greatly reducing the need for regular cleaning of the transmitter air passages. A pre-filter just ahead of the bag filters will keep the bugs and large pollen particles from clogging the bag filters. This arrangement has eliminated the costs of air conditioning in areas where the maximum summer temperature is well below the maximum operating temperature of the equipment. Reach Walt at *wcjamison@jps.net.*

★ ★ ★

If you've never worked with Continental's J. Fred Riley, you've missed a real treat.

J. Fred has an encyclopedic knowledge of transmitters and their sites. That's why he's such a resource in the company's field service division.

When he saw the ventilation "hood" in the July 16 issue, he was quick to point out that the hood violated one of Riley's Ruthless Rules of Radio Realism: never connect a transmitter exhaust to a duct.

To be fair to the engineer who contributed that picture, the hood doesn't really "connect" to the transmitter; it sits about an inch or so above the top of the transmitter.

J. Fred's point is well taken, however. If anything happens inside that ductwork to block the flow, the transmitter is starved for air. Use a cooking hood to channel the air out and allow the air to spill over in the room should the duct become blocked.

He also points out that because most transmitters (right or wrong) use air pressure sensors instead of air flow sensors, you can have lots of air pressure, and no air flow.

Fig. 2 on page 14 summarizes J. Fred's point and leads us to a story.

One summer, Cap Cities called J. Fred into a station to consult on why a transmitter constantly was losing parts. When he and the engineer got to the transmitter

See WORKBENCH, page 14 ▶

Digital Radio and AAC?

Being technology leaders is something we take pretty seriously. When new tech is introduced by a Telos product, you can be confident it's the absolute best – so you shouldn't be surprised to find high-performance MPEG AAC coding in the latest Zephyr products.

You might remember the launch of the original Zephyr. Its introduction of MP3 coding turned broadcasting upside down, and since then MP3 has become extremely popular for audio distribution, especially on the Internet.

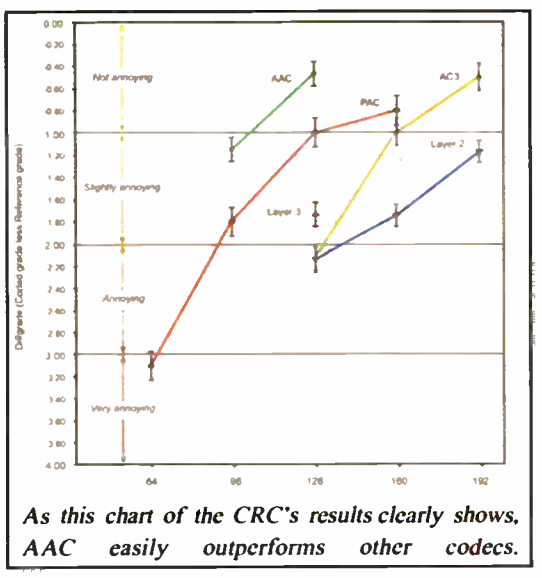
But MP3's compression technology is now over a decade old, and there have been a lot of advances in perceptual audio coding and compression since then. You wouldn't settle for a '386 computer these days – so why be content with compression technology from the same era? What you want is Advanced Audio Coding... MPEG AAC.

MPEG AAC takes advantage of all of the latest advances in compression technology. Compared to MP3, AAC delivers higher quality audio at much lower bitrates, resulting in noticeably better audio even over low-data-rate connections.

Move Over, MP3

AAC was developed by the Fraunhofer Institute for Integrated Circuits (FhG IIS, the inventors of MP3) and a consortium which included Sony, Dolby Labs, Nokia and AT&T. Their goal: to create a codec that would satisfy the International Telecommunications Union's Recommendation BS.1115, which specified indistinguishable source-to-output quality at 64 kbps per mono channel. They succeeded with AAC, which is a coding algorithm *30% more powerful* than MP3.

AAC is, by scientific and subjective analysis, the best-sounding, most efficient codec on Earth, and has been part of the International MPEG-4 standard (ISO/IEC 14496) since 1999. As a point of reference, the near-CD quality Layer 2 codec needs a data rate of 128 kbps per channel to deliver high-quality stereo; AAC gives the same quality at just 64 kbps!



As this chart of the CRC's results clearly shows, AAC easily outperforms other codecs.

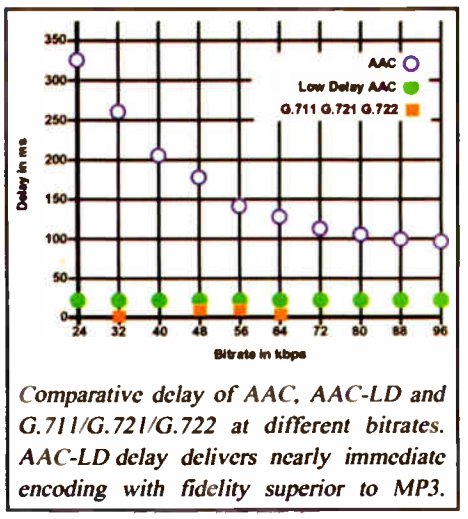
"The AAC codec outperforms the rest of the codecs," stated the esteemed Canadian Research Centre after performing double-blind subjective tests of 17 codecs (including MP3 and Layer 2) to determine which was best.

"When compared side-by-side, AAC proves itself worthy of replacing MP3 as the new Internet audio standard," says Apple Computer, which has incorporated AAC into its latest software products.

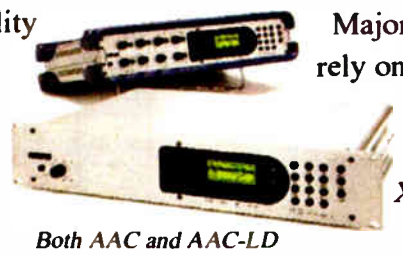
Better Audio, Less Delay

In addition to "plain" AAC, broadcasters have another tool to improve the preformance of re-mote audio transmissions: AAC Low Delay (or AAC-LD).

AAC-LD *slashes encoding delay by nearly 70%* compared to MP3 – invaluable for real-time two way broadcasts. It also employs new techniques to offer both low delay and high fidelity. Compared to speech coders (such as G.722), AAC-LD handles both speech and music with good quality. Unlike speech coders, however, audio quality scales up with bit rate. With AAC-LD, audio quality is far superior to G.711 or G.722 at the same bitrate, and equal or better to MP3 at the same bitrate.



Comparative delay of AAC, AAC-LD and G.711/G.721/G.722 at different bitrates. AAC-LD delay delivers nearly immediate encoding with fidelity superior to MP3.


Both AAC and AAC-LD are featured in the Telos Zephyr Xstream rack and portable codecs.

Major personalities such as Rick Dees have come to rely on AAC-LD for better-sounding remotes. Jerry Burnham, KIIS-FM Special Projects Engineer, told us "AAC-LD coding in Zephyr Xstream is amazing. Low-Delay coding is a tremendous advantage. We get fantastic-sounding remotes, and we can interact with phone callers, traffic reporters and other remote sources without that annoying time lag."

"The Best Low-Bitrate Codec on Earth"

There's one more exciting part of the AAC story: *aacPlus*™. This extension of AAC melds Spectral Band Replication with MPEG AAC, resulting in truly stunning audio fidelity at bit rates never thought possible before. In tests conducted by the European Broadcasting Union (EBU) which compared a variety of codecs at several bitrates, they declared *aacPlus* as the clear winner, significantly outperforming proprietary competitors and improving over other standards; studies conducted by DRM and MPEG confirmed the superiority of *aacPlus*. *aacPlus* has now been chosen by broadcasters such as XM Satellite Radio and Digital Radio Mondiale, and will soon be in use for 2.4G and 3G audio applications deployed by Matsushita and NEC. aacPlus is ideally suited for the low bitrates of IBOC AM.

Industry experts agree. "AAC Plus is the future... all else is stone knives and bearskins," according to Gary Blau of Jefferson-Pilot Communications. Jeff Johnson of X-Star Radio Network agrees: "It is quite amazing how decent a 32 kHz bitstream can sound."


Zephyr Xport is the only POTS codec with aacPlus. It can send 15 kHz mono audio over analog lines.

Telos has chosen *aacPlus* as the algorithm used in the new Zephyr Xport POTS + ISDN codec. Paired with custom modem technology developed by Telos, *aacPlus* enables Xport to send 15 kHz mono audio over ordinary POTS phone lines.

Of course we hope you will purchase Telos equipment. But even if you decide differently, make certain that whatever codec you do purchase – POTS, ISDN, serial or otherwise – takes full advantage of today's advanced audio coding technology. Make certain it has AAC.

Telos

AUDIO | NETWORKS

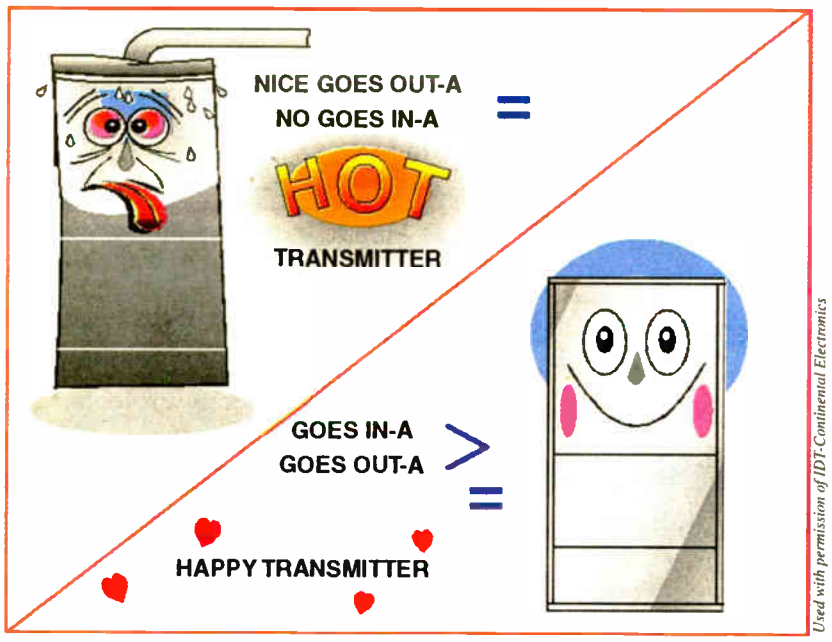
telos-systems.com

Workbench

▶ Continued from page 12

site and the chief opened the door, the door jumped into the building. You could hear the "swoosh" as the partial vacuum inside the building was relieved.

The building held an FM and TV transmitter, both plumbed through shared ductwork to the outside. The exhaust ductwork was beautiful. There was even an exhaust fan inside the ductwork. But nowhere could J. Fred find an air inlet.



Used with permission of IDT-Continental Electronics

Fig. 2: J. Fred Riley reminds us to keep our transmitters ventilated.

Finally, in the back of the building, there was a half-block missing in the cinder block. Rebar inserts had been added to keep out intruders. A TV transmitter and a full-power FM, and the only inlet air supply was a hole half the size of a concrete block!

Keep J. Fred's cartoon in mind. If you find your transmitter is eating tubes or losing components due to excessive heat, check the ventilation.

★ ★ ★

Benjamin Davis writes, "By all broadcast engineering standards, I am a rookie." However, he tends to read a lot, when he can find the time. In his note, Benjamin remarks that he recently found back columns of *Workbench* on our Web site at *www.rwonline.com*.

In one of the archived columns, I asked if anyone had any suggestions for inserting ground rods into the ground. Benjamin has done a few grounding jobs; and believe it or not, sinking ground rods can be an easy task.

After you find the spot you would like to place the ground rod, pour a gallon of water in the spot. Let it soak into the ground for about five minutes. Place the end of the rod on the watered spot, and start working the rod up and down into the ground, using your hands in a vertical motion.

A 10-foot ground rod will normally take less than five minutes to go down, not including the pouring of water and waiting for it to soak in. In cases where the earth is densely packed or composed of clay, you may need to remove the rod and add more water.

Benjamin's method is safer than trusting someone with a sledgehammer or having to swing a hammer from a ladder. It's also less expensive than renting a jackhammer.

Davis is an assistant engineer for Regent Communications of Evansville/Owensboro in Indiana.

John Bisset has worked as a chief engineer and contract engineer for more than 30 years. He is a district sales manager for Harris Corp. Reach him at (703) 627-0233.

Submissions for this column are encouraged, and qualify for SBE recertification credit. Fax your submission to (703) 323-8044, or send e-mail to jbisset@harris.com.

People News

Tell us about your job change, retirement or new hire. Send news and photos via e-mail to radioworld@imaspub.com.

Ken Broeffle was named director of engineering for **Infinity/Portland** stations. He returns to the company after six years as regional director of engineering for Citadel Communications.

Hispanic Broadcasting Corp. promoted **David Stewart** to VP of engineering. Stewart is responsible for technical ops and equipment, locating upgrade paths and improving signals, and for training and supervising technical staffs.

Frank Grundstein joins **Logitek Electronic Systems** as North American sales manager. He has worked for vendors including Lightner Electronics, Radio Systems and Harris Broadcast and is a former chief engineer or technical manager for Malrite, DDB Needham WW and Bonneville.

Frank Grundstein

Rick Funk has joined **RF Specialties of Missouri** as an independent contractor in the Great Lakes region. He is former district sales manager for Harris.

Rick Funk

OMT Technologies added **Ben Johnson** to the iMediaTouch and iMediaLogger Technical Support Department, and **David Burnham** as quality assurance manager.

Middle Atlantic Products hired **Diane Coté** as western regional sales manager. She has worked for APW and the Enright Co. Among her targets is the market for low-voltage mounting products.

Glenn K. Schulke was named **Orban/CRL** manager of new product marketing. Schulke was president and CEO of Open Technologies Inc. in Tempe, Ariz. **Kevin Clayborn** moves to Orban/CRL customer service. He has been with the company for 10 years. He replaces **Paul Black**.

MusicMatch named **Doug Leigh** as senior vice president and general counsel; **Mike Matey** as VP of consumer marketing; **Hyder Rabbani** as VP of sales and business development; and **Nishad Pai** as director of business development.

Monica Pierre, news director for **Clear Channel Radio's** urban properties in New Orleans, is working as an adjunct professor at Dillard University this fall. Separately, Clear Channel named **Jim Corwin** as VP and market manager for the Providence, R.I., cluster. **Mary Fleenor** was promoted to VP/market manager for the company's five stations in the Springfield, Mo., cluster. She was regional VP of programming for the Midwest Trading Zone and replaces **Donna Baker**, transferring to the Omaha market as VP/market manager.

Monica Pierre

The Clear Channel Traffic Network begins service in Albany, N.Y., on Sept. 1. **Jackie Donovan, Christine Masters** and **Pat Huba** will staff the new service. CCTN will be the traffic provider for Clear Channel's seven Albany stations.

Critical Mass Media said **Thom Moon** returned as Nest Marketing Project Manager. Nest Marketing is a division of Critical Mass Media and Clear Channel Radio. Moon is responsible for marketing campaigns in Clear Channel markets.

Thomas Kane, president and GM of WABC-TV in New York, was named chairman of the coalition of New York City-area broadcast TV stations working to build a new TV tower to replace the one destroyed at the World Trade Center.

Rodgson Inc. appointed **Bill Lord** as executive VP and COO. The company owns WSDQ in Dunlap, Tenn., and WYMR in Bridgeport, Ala., and by common ownership manages WEPG Radio in South Pittsburg, Tenn., and Bonafide Productions in Chattanooga.

CRN International named **Jane Garcin** as director of marketing and communications and **Cynthia Conrad** as executive assistant. In the Midwest region, **Heather Burns** was named division VP. In upstate New York, **Karen Kall** joins as marketing manager.

Salem Communications said **Tom Tradup** would join as national program director of news/talk. He was president of syndication for Sabo Media and is former president/GM of WLS(AM-FM) in Chicago, among other radio management positions.

Digital, Everywhere But Here

The Big Picture

Photo: Gary Hayes, BBC

by Skip Pizzi

While digital radio broadcasting has been far less than a killer application anywhere to date, there are signs of life showing in several venues.

Eureka-147 DAB receivers finally are beginning to move off the shelves in Europe and Canada. Automotive receivers are showing up in high-end vehicles in Germany and elsewhere, while small portables costing less than 100 pounds are particularly stimulating the market in the U.K.

New services provided in the latter zone by the BBC and commercial broadcasters are creating increased demand for DAB radios there. Some other European countries that had postponed or curtailed DAB service are reassessing their decisions, and early DAB datacasting is beginning in a few areas, including still and video images.

Much fanfare also greeted the recent launch of the Digital Radio Mondiale format, which provides digital service in the AM, MW and SW environments. This coordinated international process looks ready to hit the ground running, spurred on strongly by the participation of many state-sponsored broadcasters (including the Voice of America), who are anxious to replace their shortwave broadcasts with more-consistent and higher-quality service. DRM receivers are expected to be broadly and cheaply available around the world in 2004.

tively purchased what may turn out to be useless equipment.

At this writing, the fate of U.S. terrestrial broadcasters' digital transition remains in a single company's hands. Ibiquity Digital Radio remains mute on how the current codec problem will be alleviated, although it continues to announce loudly broadcaster adoption of the crippled format. Ibiquity's recent personnel shake-ups also do not bode well for the company's overall future.

If its cost-cutting requirements are dire enough to cause the departure of some of its most valuable staff, we should all be concerned about the corporation's ongoing viability. On the other hand, if that budgetary argument is a smokescreen, the company's management sensibility comes into question; it has now lost its strongest liaison and credibility with the broadcast industry through these actions.

Either way, the unavoidable conclusion indicates that the future of Ibiquity is at risk like never before, and with it the future of digital radio for the U.S. terrestrial industry. Observers of this space who had questioned the nature of the corporate and intellectual property structures behind the U.S. DTV debacle are starting to view the American digital radio scene with an even more-jaundiced eye. It seems profoundly sad that after more

See DIGITAL, page 16 ▶

It seems profoundly sad that the digital conversion of U.S. terrestrial radio remains in such an immature, unstable and speculative state.

Satellite radio services in the United States continue to make headway, with corporate capitalizations and audience growth building a future that seems somewhat more secure for these still-nascent operations. While the goal of profitability is some distance away, the trends are positive for both XM Satellite Radio and Sirius Satellite Radio, with most analysts agreeing that the companies and their services are moving in the right direction. Meanwhile, Worldspace continues its development of satellite radio services elsewhere in the world.

Waiting for a green light

Yet American terrestrial radio broadcasters remain stuck at the starting gate, with no standard format approved and no receivers in the market.

At the moment, it remains unclear when (or even whether) those receivers will become available. The risk of deployment before standardization — never a good idea — could in this case seriously jeopardize the 2004 bottom lines for broadcasters who have specula-

WIRED FOR SOUND

Bell Labs and Coaxial Cable

by Steve Lampen

Gather 'round, children. I know it's way past your bedtime, but Grandpa Steve is not yet finished talking about the history of wire and cable. But count your blessings. At least we're into the 20th century.

So where were we before we were so rudely interrupted?

Oh, yes. We were talking about the telephone and the invention and improvement of the triode vacuum tube, the first true amplifier, which made long-distance telephony possible.

The first cross-continent call from San Francisco to New York occurred on Jan. 25, 1915, at the San Francisco Panama-Pacific International Exposition, celebrating the opening of the Panama Canal. My grandparents were both there. I wonder if they saw the new "cross-country" telephone?

The call was from San Francisco, made by Theodore N. Vail (1845-1920), one of Bell's original partners, to the great man himself, Alexander Graham Bell. Thomas M. Watson, Bell's original assistant at the invention of the phone, also made a call from San Francisco to President Woodrow Wilson in Washington.

By 1915, the nation had 11 million phones in service.

In the lab

The World War helped the market for wire and cable, as it did for many technologies. The progression of radio also was a major boost, although transmitted frequencies were still low, so the performance of the cable was not a major obstacle.

Partway through the war, planners realized that Germany and its allies could cut off the Allies' supply of rubber with a few ships blockading Central and South America. This would affect the supply of insulated wire and tires for military cars and trucks.

Luckily, such a blockade was never attempted. But this "scare" started the search for new insulations, a topic we will revisit.

Engineers working for the Bell System realized they needed a research arm to answer the many questions about communications, wire and cable. In 1907, Vail, soon to be president of AT&T, combined the engineering departments of AT&T and Western Electric.

By 1925, Bell Labs had become a major force in scientific research.

One of the key problems with wire and cable was how to measure it. Of course, you could always test a short section in a laboratory; but the real world contained millions of miles of cable.

Until the 1920s, the loss on a pair of telephone wires was measured by a unit known as the "mile of standard cable." This unit of measure was used until 1923, when the "transmission unit" was adopted. The new unit was defined as 10 times the common logarithm of the ratio between two levels. Use of logarithms allowed the easy expression of wide differences in levels. In 1924, it was proposed that this "transmission unit" be renamed a "bel."

However, the "bel" did not convert easily to units in use in Europe. One-tenth of a "bel" was easier to convert, so the unit was changed to one-tenth bel, or "decibel." This was communicated to the Bell System engineers by W. H. Martin in January of 1929. A copy of this very memo was given to me by my friend Bill Ruck.

Combination effect

One of the first major Bell Labs projects was to understand the nature of cable. With millions of phones in service, wiring was getting out of hand. And the wiring between central offices was becoming an even bigger problem. The telegraph had multi-level and multi-tone systems that allowed multiple messages to be sent down one line. Why couldn't this be done for the telephone?

Standard twisted pairs had many disadvantages. Resistance, capacitance and inductance had been understood since the mid-1800s. Engineers soon realized that the *combination* of these effects had a profound effect on cables, especially at higher frequencies.

These frequencies, the "unused" territory of bandwidth on a cable, interested Bell Labs. If one wanted to send multiple voices down cables, it would only happen at higher and higher frequencies. So these frequencies, and the effect they had on a cable, had to be understood. The combined effect of resistance, capacitance and inductance was termed impedance, described as "the total opposition to current flow."

Twisted pairs, comprising nothing more than wires loosely twisted together, had serious problems at high frequencies above 100 kHz. The space between the wires would change when the cable was flexed. This change in conductor-to-conductor spacing affected capacitance and therefore varied the impedance of the cable. Pairs with uneven insulation or insulation that varied in quality also affected the stability of impedance. These twisted pairs were poor choices for high-frequency applications.

Espenschied and Affel hit on the idea of putting one wire inside the other. This still sounds impossible. Imagine how it must have sounded in 1929.

Two wires, one axis

How do you make two conductors that are physically locked together so that the dimensions are stable? If dimensions are stable, impedance is stable; and this construction would be good for high-frequency applications, the place Bell Labs wanted to play.

So we come to one of those moments in history in which an idea comes about, driven simply by the need to exist, one that seems to have no precedent based on previous work, a true invention.

The answer was furnished by two unsung heroes of the cable world, Lloyd Espenschied and Herman Affel of Bell Labs. On May 23, 1929

, they hit on the idea of putting one wire *inside* the other wire. This still sounds impossible. Imagine how it must have sounded in 1929.

Having one conductor inside the other meant that they shared the same axis, so this construction was called coaxial cable. This design demonstrated extremely stable impedance and was excellent at high frequencies.

There was really only question left: what impedance should this coaxial cable be? For now we're talking about high frequencies (in the megahertz!) in which one must match the source and destination devices with a cable of the correct impedance. What impedance would work best?

This turned into three questions. What cable impedance would give the lowest attenuation or signal loss? What cable impedance could handle the most power (watts)? What cable impedance could handle high voltage?

They built hundreds of cables starting with the same center conductor and measured various parameters on each one. What they found surprised them, for the appropriate impedances for each requirement were completely different.

Do you know what those numbers were? I bet you don't. Tune in for the next exciting episode!

Earlier installments in this series on the history of wire are at www.rwonline.com.

Steve Lampen's latest book, "The Audio-Video Cable Installers Pocket Guide," is published by McGraw-Hill.

Digital

▶ Continued from page 15

than a decade of development, the digital conversion of U.S. terrestrial radio remains in such an immature, unstable and speculative state.

The FCC also should question its role in this matter, in pursuing an unprecedented process of releasing interim rules based on a single company's technology prior to any standard-setting effort. After all the pain and criticism the commission has suffered in the DTV process, one is left only to infer that it is an organization that doesn't learn from its mistakes.

Today terrestrial radio remains a viable medium in the United States, if only by default. How much longer these broadcasters can linger with current technology while others excel is a fundamental question, one that continues to threaten the prospects for U.S. terrestrial radio's future.

Skip Pizzi is contributing editor of Radio World. RW welcomes other points of view.

MARKET PLACE

Phase Perfect Converts Power

Phase Technologies has expanded its product lineup with a new digital phase converter, Phase Perfect, for supplying three-phase electrical power from a single-phase source.

Models of 10, 20 and 30 horsepower in outdoor rain-proof enclosures are available. Using solid-state power switching technology, Phase Perfect eliminates power quality problems that the company says are associated with other phase converter technologies. They position Phase Perfect as an affordable alternative to utility-supplied three-phase power.

"With voltages balanced +/- 1 percent, electronic power factor correction and virtually no harmonic distortion, Phase Perfect is capable of safe, reliable operation of any three-phase application."

For information, contact the company in South Dakota at (605) 343-7934 or visit www.phaseperfect.com.

OMNIRAX

THE LEADING MANUFACTURER OF STUDIO FURNITURE FOR THE PRO AUDIO INDUSTRY

INTRODUCING OMNIRAX BROADCAST FURNITURE AVAILABLE TO YOU DIRECT FROM THE SOURCE!

We are now expanding our line to include models designed specifically for the broadcast industry. Our ability to modify existing models, or create custom furniture to your specifications, whether it's for one room or forty, assures you will get exactly what you need, in the colors and finishes you want. You no longer have to settle for an off the shelf product which may not be what you are really looking for; we can provide you with a custom solution at a price you can afford.

Force 12 MP

Force 26 MF

Force 24 MF

Synergy

OmniDesk Suite

Why Omnirax?

- Excellent collaborative custom design ability, so you get exactly what you want
- Unique combination of style, functionality and ergonomics
- Fanatical attention to detail
- 15 years of experience
- 100% satisfaction guaranteed

P. O. Box 1792 Sausalito, CA 94966 800.332.3393 415.332.3392 FAX 415.332.2607
www.omnirax.com info@omnirax.com

Take a Ride on the Wild Side

'King of the World': How to Hitch a Trip With the U.S. Air Force Thunderbirds

by Gary Palamara

Most of the early afternoon is spent discussing the flight and going over procedures. Next, there's a pre-flight physical, before getting fitted for your "G suit."

Major Doug Larson, Thunderbird 2, gives the Air Force message to Bill Baldini of TV-10 in Philadelphia.

For Karen Adams, a reporter for KYW(AM) radio in Philadelphia and Bill Baldini from WCAU(TV), the anticipation of this Air Show weekend is now mixed with a combination of nervousness and joy — the kind of feeling you get when you're seated in a roller coaster as it heads straight for the top. Karen and Bill are about to get a close-up look at what it's like to fly like a bird — a Thunderbird, to be exact.

The United States Air Force Thunderbirds are one of the world's premiere military aerial demonstration teams. Along with the Navy Blue Angels and the Canadian Snowbirds, the Thunderbirds crisscross North America each year showcasing some of the best precision flying in the world.

For the media, all three teams and many civilian performers offer backseat rides to show off their talent and skill.

50 years old

The Air Force became a separate branch of the military following the end of World War II. Within a short time after its creation in 1947, the Air Force recognized the need for self-promotion. Personnel retention, recruitment and the ever-present need for public support in the halls of government were as important in the early years of the Air Force as they are today.

The Navy had established its Blue Angel squadron six years earlier. The United States Air Force in May of 1953 established a precision acrobatic team. Officially, they are known as the 300th Air Demonstration Squadron, but soon after its inception, the new team was given the name the Thunderbirds, after the mythical Native American war bird. In 2003, the Thunderbirds celebrate their 50th anniversary.

Job One for the Navy's Blue Angels, the Canadian Snowbirds and the USAF Thunderbirds is to promote military aviation while spreading goodwill and patriotism. During the past half-century, the Thunderbirds have performed in all 50 states and 65 countries. The air show season runs from March to November.

Flyovers at public events and air shows have always been the way military teams demonstrate their skills to the public. But now, in this time of heightened awareness of aviation, military skill and precision seems to take on an even greater sense of importance.

With Karen Adams in the back seat, Thunderbird 7 is on the roll.

On average, according to the International Council of Air Shows, 15 million to 18 million people attend air shows in North America each year. But 2003 is not an average year. Besides the Thunderbirds anniversary, on Dec. 17, the world will celebrate the 100th anniversary of the Wright Brothers invention of the airplane, and the spectacular Steven F. Udvar-Hazy Center of the Smithsonian Air and Space Museum will open at Washington Dulles International Airport. Coming so late in the year, public interest in aviation will likely remain high throughout this year and into 2004, which translates into media opportunities.

When the Thunderbird team arrives in a town for an air show, the team spreads out to attend town meetings and school events, make hospital visits and participate in local TV and radio interviews.

To give local reporters a realistic view of what it's like to be a Thunderbird pilot, the team provides credentialed members of the media with back-seat rides in a real Thunderbird jet. If you are interested in riding a roller coaster on Steroids, the Thunderbirds have an F-16 waiting for you.

Officially it's known as a Media Flight, and at most air show locations, the Thunderbirds only have time for one or two. Radio reporters are more than welcome to participate, and the procedure is relatively simple.

All the information is available on the Thunderbird Web site or via telephone. But with limited availability, time is of the essence and applications should be submitted well in advance of the air show. The team will notify you several weeks prior to the air show if you have been chosen to fly.

Pulling Gs

Hard-nosed reporters get goose bumps at the chance, which of course is the point of the flights. The clock just seemed to stand still as the day of the flight came closer for Bill Baldini.

"Once I knew I was going up, I had a tough time waiting for the day to come. All I wanted to do was fly. I spent four years in the Air Force and they never let me fly anything. Now I'm a reporter and they put me in the back seat of an F-16. Wow."

For Karen Adams of KYW, flying with the Thunderbirds was a career highlight.

"It's the reality of a childhood fantasy," she said. "My father served in the Army, so I knew about the Thunderbirds. I even dreamed about becoming a fighter pilot, just so I could feel the power of an F-16. As it turned out, that wasn't necessary."

What was it like? Adams was the first to fly when the Thunderbirds came to nearby Willow Grove Air Show in 2002.

"I was in the air for about an hour. After takeoff, we jetted over to the New Jersey coastline. We even flew into a restricted military zone, where I got to feel what a Lockheed Martin F-16 can do.

"I'll never forget the feeling of the G-force as my pilot, Major Glen Lawson, engaged in sharp turns and loops. The pressure was enormous."

The next day it was Baldini's turn to soar into the heavens.

"When we started down the runway, the pilot said to me, 'Don't look straight ahead, because you can't really see how fast we're going. Look to the right or the left.'"

Photographs © Gary Palamara

Karen Adams suits up in front of her Thunderbird F-16.

The jet starts to roll, then the afterburner kicks in and within a few seconds, you are going vertical.

"The pilot started counting off the Gs," Baldini continued, "6.5, 7, 8... When we hit 9 Gs, I was frozen. I couldn't move my arms or legs. Then I thought to myself, this guy up front is still talking to me in a calm voice and flying this thing ... unbelievable."

A media flight lasts from 30 minutes to an hour. Your Thunderbird pilot will go as slow or as fast as you like, and they concentrate on making sure that you have a good flight.

Back on the ground, Baldini said, "I know why these pilots love this stuff. You feel like the king of the world up there. All you see is sky."

Adams said she walked away from the experience with a new respect for fighter pilots.

"They must endure and overcome the physiological effects of G-force while engaging in high-altitude dog fights."

Would she do it again? Without hesitation she answered, "In a minute."

Baldini had a similar response. Any regrets? "I was annoyed because I didn't want it to end."

See the accompanying box for Web sites that include listings of Thunderbirds, Blue Angels, Snow Birds and ICAS show dates and information about taking media flights.

Gary Palamara is a freelance writer with a love of aviation. From 1968-72 he worked with the Armed Forces Radio & Television Service while serving with the U.S. Air Force. For 30 years he has been a freelance broadcast engineer; he is also an amateur radio operator, call sign AF1US. Reach him via email at morningstar@monmouth.com.

Flying High

Thunderbirds:
www.airforce.com/thunderbirds/index.htm
Blue Angels:
www.blueangels.navy.mil
Canadian Snowbirds:
www.snowbirds.dna.ca
ICAS:
www.airshows.org

MARKET PLACE

Netia Explores Wireless World

Netia said its Insider Pocket PC will bring the Radio-Assist Insider intranet-based lookup program to Pocket PC devices.

The purpose of Radio-Assist Insider is to find and play any file in a database connected to a station intranet. The company said a multi-criteria search function gives near-immediate access to selected data, with the interface personalized to match the access rights of the user.

It can be used to listen to an ongoing recording or news feed. Editors can access a playlist in advance and validate it with a ready-to-broadcast flag. A moderator can use it to monitor the broadcast.

Insider Pocket PC includes those functionalities and makes them accessible from a PDA.

The company said this product is useful for broadcast managers, letting them remain in contact with their station anywhere via a Wi-Fi hotspot or other wireless Internet connection.

For information, contact Elisabeth Clementin in France at 011-33-4-67-59-08-07, e-mail to e.clementin@netia.net *or visit* www.netia.net.

Tool Finds Signal Strength Using ZIP Codes

V-Soft Communications had added a ZIP code-signal lookup feature to its Web site.

The tool, a free service, can find signal strength of AM and FM stations at ZIP code centers anywhere in the United States.

Once the user enters the desired code at the prompt, the program searches at the ZIP code center coordinates and displays AM stations with threshold signal of 45 dBu and FM stations with a signal level of 50 dBu. Station call sign, city of license, state, frequency, signal in dBu and mV/m and facility identification number are provided.

The tool allows the user to search the database using a station call sign.

Signal calculations are made using standard FCC methods, which include 30 arc-second NGDC terrain elevation database for FM and use of the M3 groundwave curves for AM. Directional patterns are considered and V-Soft claims the information is an accurate representation of a station's signal strength.

For information visit www.v-soft.com/ZipSignal.

Orban Sets Tour Dates

We told you in the spring about the Orban/CRL Mobile Broadcast Laboratory. Now the company has scheduled its first cross-country tour, which was to begin in mid-August and conclude in November.

The 33-foot mobile vehicle has been converted to allow for testing and demonstrations of Orban and CRL products and comparisons with other products. It also has product displays.

"The reason that Orban/CRL launched this vehicle is that many stations and networks have faced budget reductions in recent years," the company stated. "A decline in travel funding has caused a downturn in show attendance at most national broadcasting gatherings."

Sixteen visits are planned to state broadcast conventions, SBE events, the NAB Radio Show and the AES show in New York City. The first stop is the Nebraska Broadcasters Association in Lincoln. Stops include Austin, Texas; Kansas City; St. Louis; Minneapolis; Milwaukee; Chicago; Cleveland; Wichita, Kan.; Sacramento, San Francisco, Fresno, Los Angeles and San Bernardino, Calif. Stops in Denver and Phoenix may be added.

For information or to inquire about booking a visit, e-mail *drusch@orban.com*.

Photo by Paul McLane

Orban staff posed in front of their new Mobile Broadcast Lab at NAB this spring.

GM Journal

Radio World | Resource for Business, Programming & Sales | September 1, 2003

Clear Channel Station Tries Subscription Radio

Page 27

Bob Hope: Irreverent, Racy Radio

by Ken R.

In the 1930s and '40s, Pepsodent sold a lot of toothpaste and Woodbury sold a lot of soap. Those advertisers and others knew that Bob Hope's radio presence was a big reason for their success.

Bob Hope in the late 1930s.

Hope died on July 27 at age 100. While most people are aware of his movies and TV specials, many don't know that he had equal success in radio. Indeed he was inducted into the Radio Hall of Fame in 1990.

Bob Hope's radio persona was brash and sometimes irreverent, but he was always "advertiser-friendly" on and off the air.

Chuck Schaden is a man who has devoted his life to preserving the golden age of radio and was himself inducted into the Radio Hall of Fame in 1993 — the only "fan" to receive that honor.

Bob 'Pepsodent' Hope

"Bob Hope began his first regularly scheduled radio show in January 1935 on the old NBC Blue Network," said Schaden. "The show, called 'The Intimate Review,' was sponsored by Bromo-Seltzer and ran three months. Then that fall, he moved to the CBS Radio Network for Atlantic Oil. That lasted a year."

The NBC Blue Network was sold in 1943 and became the American Broadcasting Co.

Schaden said that from there, Hope got a summer show in 1937, again on the NBC Blue Network for Woodbury Soap. The name of that program was "Rippling Rhythm." From December 1937 until March of the following year, Hope was heard on a 60-minute show called "Your Hollywood Parade," sponsored by Lucky Strike Cigarettes on NBC. (Cigarette advertising was not banned from radio and television until 1971.)

It was in September 1938 that Hope began his long association with Pepsodent.

For 10 years, Hope sang the praises of Pepsodent products before taking on a show for Swan Soap, also owned by Lever Brothers, now known as Unilever. But it was a historic 10 years.

In March 1940 the U.S. military asked Pepsodent to originate a radio show from one of its bases to entertain the troops. Hope was reluctant because he was used to the comfort of the studio, according to Schaden.

'Overwhelmed'

"But when he did the show, he was overwhelmed by the reception he got," he said. "After that, his studio-bound shows seemed less exciting. So during the course of World War II, Hope did almost all his shows from remote locations, including Army and Navy bases and even from ships anchored off the coast of California."

Hope's top-rated Pepsodent show was a staple on Tuesday nights for many years.

On May 6, 1941, the Pepsodent show aired from March Army Air Force Field in Riverside, Calif., according to the Library of Congress. It was the first remote broadcast to go coast to coast.

According to the Library of Congress, even when Hope's program was rated No. 1 NBC management fretted over his monologs, "which were occasionally racy in addition to being topical." Its Web site includes notes from a 1942 management meeting indicating that serious consideration was given to canceling Hope's show.

Hope broadcast his first Christmas program during the Berlin airlift in 1948. He kept those holiday shows coming through Operation Desert Storm in 1991.

"He'd always have local jokes for each venue," said Schaden. "His humor was very topical. For example, he would kid the soldiers about visiting Gertie's Candy Store. The GIs would roar, because they knew that Gertie's wasn't really a candy store."

Professionals make what they do look unrehearsed, and Hope was no exception.

"He used to hold a preview for his Tuesday night show on Sunday nights," said Schaden. "He would get a large audience in a theater and use every joke his writers gave him. He would then tick off which jokes worked best and trim his presentation to a very solid 30 minutes for Tuesday's broadcast.

"By the time he hit the air you could hear the perfect rhythm and could always count on a solid six big laughs every minute he was on the air."

Timing was the key to his success.

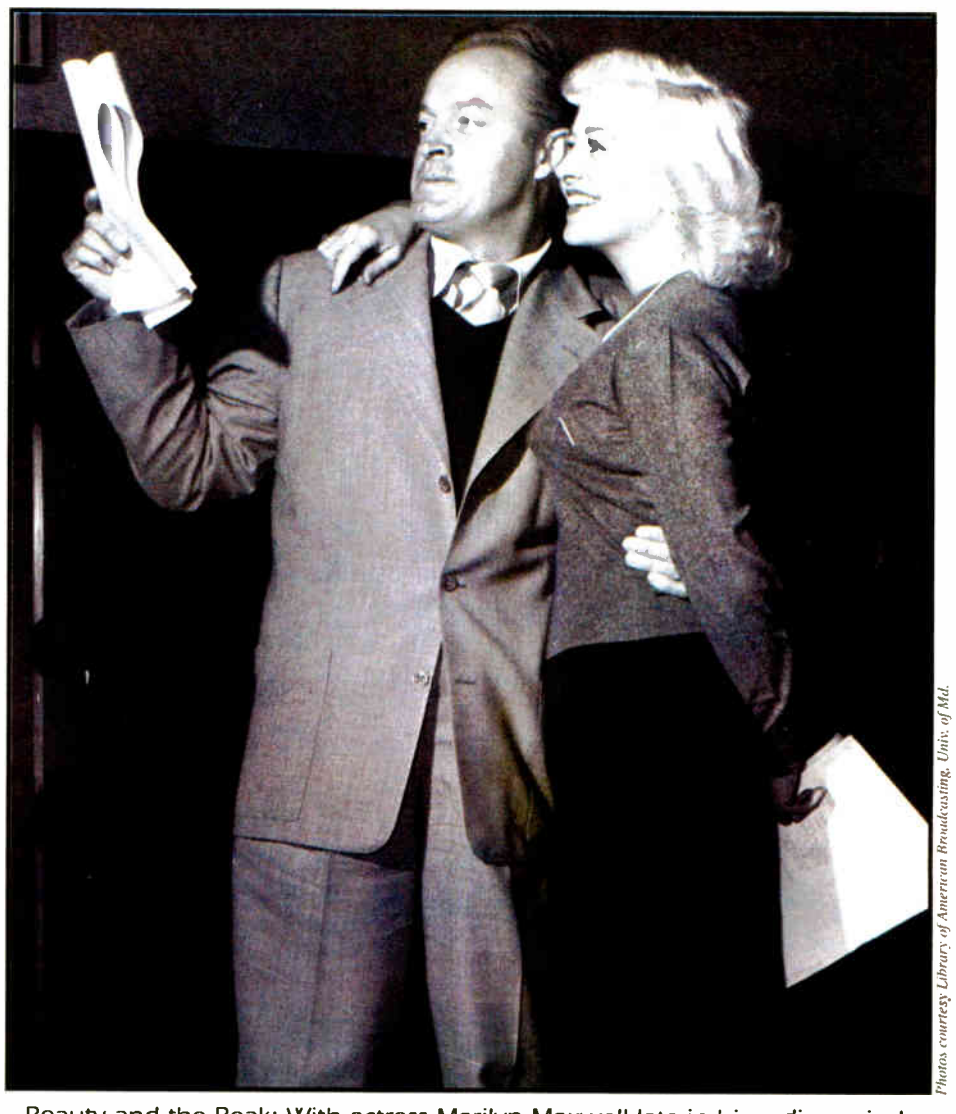
"He would tell a joke, and before the audience could respond, he would throw in 'but I wanna tell ya ...' to fill in the pause," said Schaden. "He always preferred radio to TV because he liked working with a script. When he got to TV he had to rely on cue cards."

By 1956, radio was changing and Hope was changing with the times. Television was eclipsing radio as the home of variety and comedy programs, but Hope did yet another radio program, this one for the American Dairy Association. His last regular radio show was in 1956.

"Radio was extremely important to him," Schaden said, "because it gave him an opportunity to reach millions of people and perfect his comedy craft."

The official Bob Hope Web site is *www.bobhope.com*. For further interesting reading that includes Hope's radio career, visit *www.loc.gov/exhibits/bobhope/radio.html*.

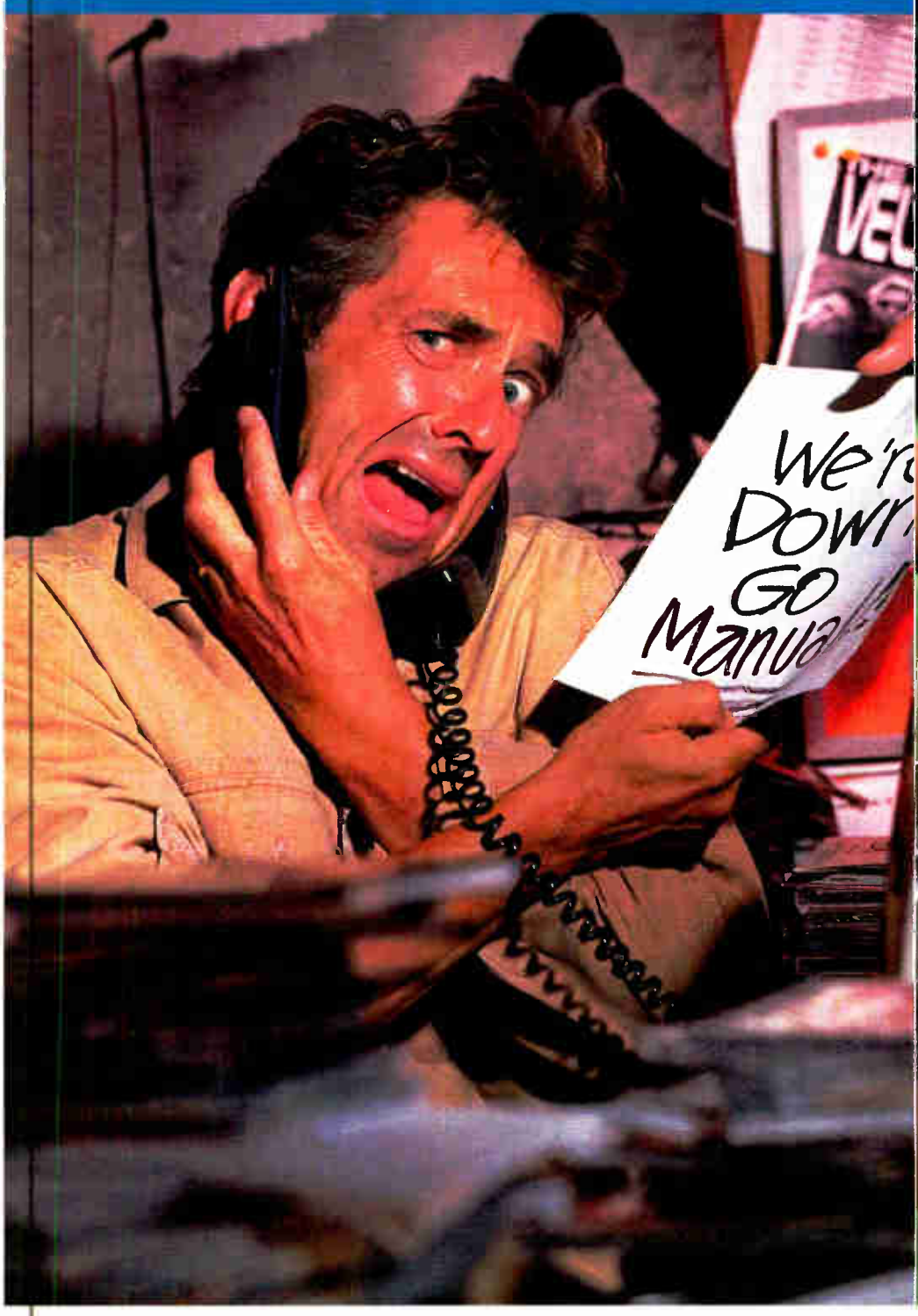
Ken R. used to tell jokes on the radio. But seriously, folks ...



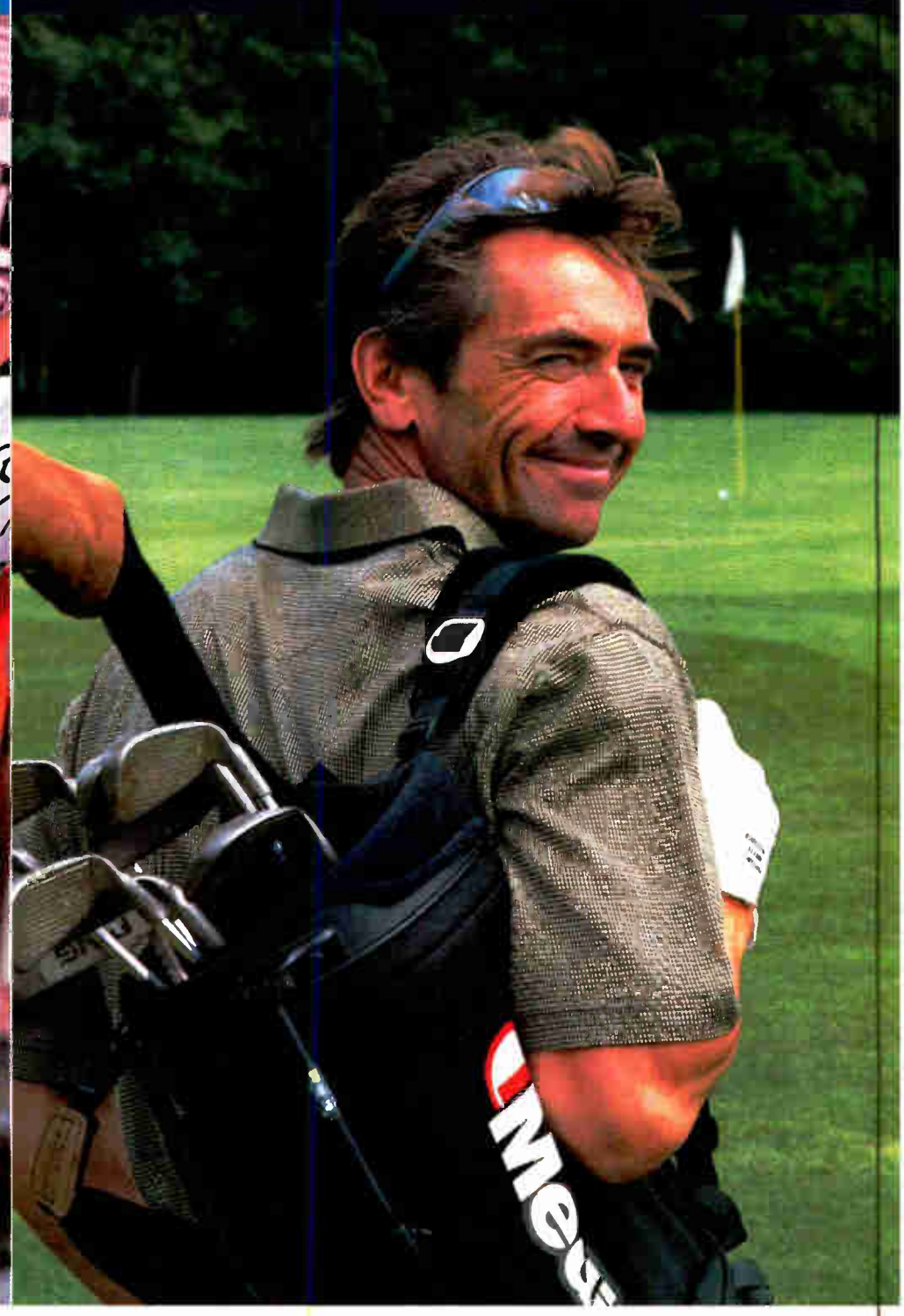
Photos courtesy Library of American Broadcasting, Univ. of Md.

Beauty and the Beak: With actress Marilyn Maxwell late in his radio period.

Looking for some free time?



You need iMediaTouch.



Frustrated with your current digital audio delivery system?

Since 1984, over 500 radio stations around the world have trusted iMediaTouch broadcast automation software. With a host of award winning features designed to save both time and resources without breaking the bank, the iMediaTouch digital audio delivery system is easy to use and dependable time after time.

iMediaTouch broadcast automation software.
Big market dependability. Small market affordability.

iMediaTouch

To find out more call us Toll Free 888 665 0501 or download a FREE trial version at www.omt.net

THE NAB RADIO SHOW See us at the NAB Radio Show 2003 - Philadelphia, PA - Booth #423

omt technologies

Raise the Bar at Your Station

by Mark Lapidus

In our business, it's pretty easy to convince yourself that the station you work with is extraordinary.

Every station has hardcore P-1 fans who will call and e-mail you and tell you that you're the best. Combine this with other things that may happen, especially in large markets, like having national recording stars in your hallways and ten of thousands of people at concerts you promote. This makes one feel as if something out of the unusual is happening.

Is it? Perhaps not.

Location

Consider that much of what happens at your stations may occur simply because you're in a particular format and market size.

Why is this an issue? I bring it up because in order to be truly *great*, you must first know what would happen whether you work at it or not. These are things that come to you simply for existing and doing a reasonable job. Once you know where the bar is set, you can begin to raise that bar, and therefore strive to make your radio station extraordinary.

Allow me to offer a few thought-starters to help you open your vision so you can begin pushing your station into the next phase of success.

What's one thing your morning show can do that nobody in your market does? Create a situation in which they can have more one-on-one interaction with listeners, and people who may become future listeners. Take the morning show on office visits once a week to a large office building.

You can ensure success by making certain you have a fan in one office — look at your e-mails and faxes for company names. Once you're in the building, visit other offices ... just drop by the receptionist desk, tell 'em who you are and why you're there — to give away free stuff. You'll be amazed at the response you get from people when you do this.

Why? Because it's unusual for a celebrity (yes, your DJs are celebrities) to stop by a work place. No, it does not take a large budget to do this and yes, it works as well in large markets as in small ones.

Once you know where the bar is set, you can begin to raise that bar, and strive to make your radio station extraordinary.

You will need a few tickets, CDs or T-shirts, just a few items you can raffle off to those who put their name in a hat. But giving away prizes is not the reason you've come. You're there to say thanks to people who listen and to tell people about the show who have never listened.

Word of mouth

This type of appearance isn't for every morning show. It takes a team that is good in person and willing to work hard for success. If you don't do it every week, you won't generate enough word of mouth.

Look at this way: If your morning show talks to 20 people, each of whom talk to 10 people about the fact you've visited, you've touched 200 people in one visit. Do this weekly and you'll generate quite a buzz. Do this for several years and your morning team will be doing something way beyond the average.

What can you do when you are at concerts and other large events that will put you above the rest of the stations? For one, you can send out a review reporter to every show. This "reporter" is there to gather audio reviews from listeners as they exit the event.

It's great when a venue allows you a whole setup with your booth and banners, but even when they won't let you put anything up, you can still send out your reporter. The key is to make sure she has a great personality and isn't afraid to approach people to identify herself and ask how the person liked the show.

You must also do this at every show — even if you just pick one venue — so that concertgoers will get used to seeing your person there. If you can send two people, one can hold a sign or banner, while the other records the reviews. It's even better when you use some of this audio on the air.

However, if you can't, you could put the audio up on your Web site. Or don't use it all. This is more for the effort of touching listeners who want to offer their opinions about an experience that they just had. As humans, we all love to share our feelings about such moments.

They say it's your birthday

Everyone has a birthday. What can your DJs do to cut through the usual and touch people on their birthday? Sure, you can set-up your e-mail program to send an automatic greeting card to someone on his or her birthday, but I would hope you'd do that as a matter of course.

What could you do that's simple, doesn't cost a dime and will make people remember you forever? Have your DJs call — yes — actually telephone someone on her birthday to wish her well. It's certainly nice if you have something free to offer a listener on their birthday, like a free ice cream cone, but it only adds a little to this experience. The real point here is the one-to-one nature of a famous person (from the radio!) who calls you just to wish you well.

Would you like to be on TV news regularly? This one requires you to hire part-timers or interns. Their goal is stand anywhere there's a live TV camera with banners or signs from your station.

This works best if they don't look like they are working for you. It takes a real gutsy person to pull it off. Pay them each time you actually see them make the news. One common-sense caution: Stay away from really sad stories where people are seriously injured or worse.

Is there anything you can do with your Web site that would take you above the norm? Sure.

Create galleries for your listeners to post their photos. Do not require them to be station-oriented. Instead, group them according to things that make sense for certain lifestyles.

Perhaps you could host a wedding section where people can post their photos. It could be that your format lends itself to fishing and hunting. Fisherman love to take pictures and will send their friends to your Web site to see those magic moments. This angle (or angler!) provides a benefit for your listeners and creates more page views and awareness for your Web site.

Think of an area that you'd like take to the next level. First consider what radio stations usually do, and make sure you do that first. Next, brainstorm to come up with a concept not done in your market or perhaps anywhere else. Make it good enough so that someone else in our industry will realize that what you did sets a new standard.

I won't kid you; this is hard work. But it's also the best kind of work because it pays off in ratings results.

Mark Lapidus is president of Lapidus Media. Reach him via e-mail to marklapidus@yahoo.com.

Promo Power

by Mark Lapidus

WE GIVE YOU R.

Name: Ken R.

Writes About: Production, management and the humorous side of radio

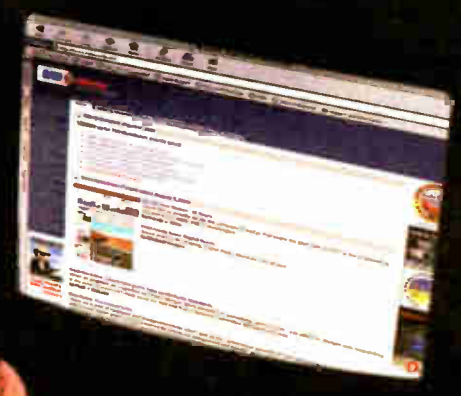
Experience: Five years in radio, a year directing public TV, 23 years running a successful jingle/production recording studio and one book, "The Jingle Book," released in 2002.

Mentor: Journalism teacher Fred Marlo

Learning Experiences: playing keyboards in bad rock bands in the 1960s, getting fired from several radio stations

Quote: "Life is a parade staged for my amusement."

Free Technology Workshop



In The Convenience Of Your Office

Radio World

HARRIS

Radio World presents a live web seminar sponsored by **Harris Broadcast Communications Division**

WHO: YOU!

WHAT: eXtreme digital radio - Implementation and Moving Forward

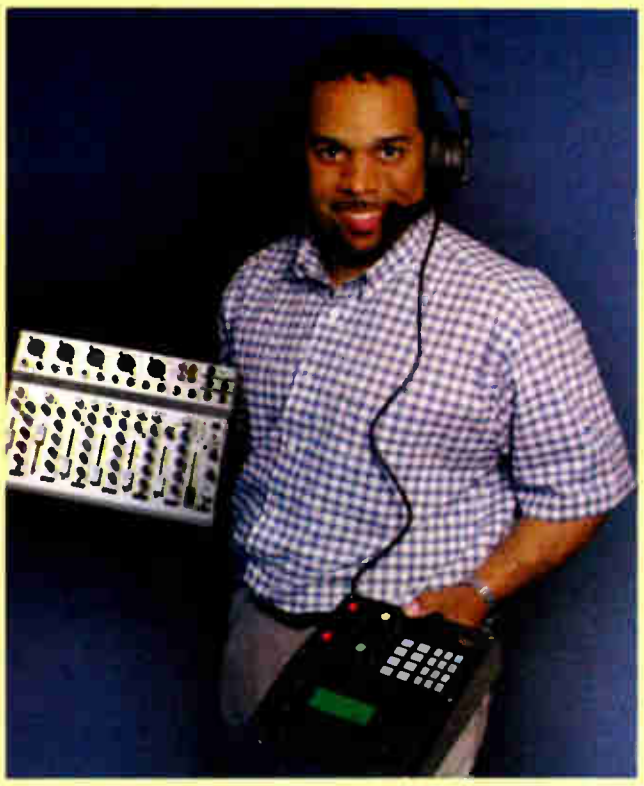
WHEN: September 24, 2003 Noon - 1PM EST

WHERE: Virtually anywhere

HOW: It's easy and FREE! Click here and register: www.rwonline.com/webinar103

No special software needed, just an Internet browser & advanced registration. Don't delay! Reserve your slice of bandwidth - get the best seat in the house!

BSW is Stocked with Remot



Rely on BSW Sales Representative Laz Harris for friendly, expert assistance in acquiring the right gear for the upcoming fall sports season. Call Laz at 800-426-8434 or email him at LazH@bswusa.com

When the big game is on the line... don't take chances with any other supplier. For over 30 years, BSW has supplied remote gear to radio stations all over the planet. Our seasoned professional sales representatives are experts in outfitting you with the right equipment for use in the field.

Take a moment *right now* and inventory your remote gear, *before* the night before the game. Replace worn out codecs, mixers, headsets, microphones, couplers and cables.

Order as early as possible to avoid delivery conflicts. We've brought in extra inventory for this sale, but the demand for new equipment is always huge. Sale ends September 30th.

No one stocks and sells more remote gear than BSW – we have the right equipment, all with our best price guarantee!

Of course, not all remote events can be as exciting as reporting the play-by-play of a tense, action-packed game of Cow Pie Bingo. But no matter where you end up broadcasting from, BSW has your remotes covered.

Oh, don't forget to check your shoes...

BSW
BROADCAST SUPPLY WORLDWIDE

JK Audio

Rugged road tools for quality telephone audio

The advanced RemoteMixSport is a combination audio mixer, headphone amplifier and telephone hybrid all in one. This is the one tool you need for sports broadcasts. The RemoteMixSport offers three XLR microphone inputs; three headphone jacks; 1/4" headphone cue input; XLR clean mix or phone mix output; speaker and talkback microphone and a VU meter. It works with conventional phone lines as well as PBX, ISDN and cell phones.

The ComPack gets audio in and out of analog phone lines, PBX systems and even cell phones, and is perfect for remote broadcasts, IFB feeds, or interviews over any phone connection. ComPack also functions as a simple telecom interface for your beltpack intercom system, providing a full duplex, always-on connection to any telephone network.

REMOTEMIXSPORT List 995.00 **879.00**

COMPACK List 545.00 **479.00**

We've special-ordered these headsets with factory-wired XLR and 1/4" connectors!

SENNHEISER

The HMD 280 (right) is perfect for broadcasting in high-noise environments, with sealed earpads and a noise-rejecting supercardioid mic. Features left or right side mic wear.

The HMD25X-Q (not shown) combines a lightweight, split padded headband and dynamic, closed headphones with a quality supercardioid close-contact dynamic mic – it can't be beat in noisy environments.

HMD280 List 299.95 **189.00**

HMD25XQ List 509.00 **349.00**

beyerdynamic

The DT190 combines Beyer-Dynamic's best sounding hypercardioid mic and studio-quality headphone elements. For more details go to www.bswusa.com.

The affordable DT290 (not shown) is comfortable for even marathon use, and its quality dynamic mic offers excellent isolation from noise.

DT190 List 389.00 **299.00**

DT290 List 289.00 **229.00**

Professional handheld interview mics at great prices!

BSW carries the best mics from all the leading manufacturers. These quality handheld dynamic interview mics deliver outstanding performance at prices that will leave you smiling.

The Shure VP64A is a sleek, high-output omnidirectional mic; the Electro-Voice 635A is a popular omnidirectional mic with metal construction; the Audio-Technica AT804 is a favorite rugged omnidirectional mic; and the Sennheiser MD46 is a cardioid interview mic that combines ultra-low handling and wind noise with extended frequency response, for a mic that delivers great results even in noisy environments, such as sports arenas. Stock up now!

SHURE

VP64A List 125.00 **75.00**

MD46 List 199.95 **169.95**

EV

635A List 172.00 **99.00**

audio-technica

AT804 List 110.00 **75.00**

Telephone line mixer

This portable, battery-powered mini-console can turn any modular telephone into a remote broadcast studio link or telephone interview control center. Simply plug the telephone handset cord into the TLM500 along with a studio quality microphone and headphones. **Features:** mic and line inputs; low battery indicator; peak reading LED and headphone amplifier. Includes AC adaptor.

TLM500 **269.00**

RADIX

BSW's $30,000 Prize Giveaway Cont

te Gear at the Best Prices!

XPORT

Buy Both and get a FREE Upgrade to ISDN
(A BSW Exclusive $500.00 value)

XSTREAM

Telos

Only BSW upgrades your Xport POTS codec to ISDN for FREE!

The amazing Telos Zephyr Xport POTS codec allows you to send high-quality audio to a Zephyr Xstream ISDN codec back in the studio. With the Xport in your tool kit, you can do full-fidelity remotes to ISDN over standard phone lines, fast and easy. It utilizes a custom DSP-based modem architecture that extracts maximum bit rate from standard phone lines and prevents audio loss from retraining; groundbreaking CT-accPlus coding which improves efficiency 30% over standard MPEG AA; a built-in web server for convenient remote and local control; an Ethernet port; DB-9 computer interface connections; upgradeable to ISDN operation.

The Zephyr Xstream is a rackmount ISDN codec that offers two-channel flexibility over a single ISDN circuit or two synchronous links to transmit and receive 20 kHz stereo audio to and from a single location or two mono channels to and from separate locations.

With BSW's exclusive remote sale offer, purchase both and your XPORT POTS-based field unit is automatically upgraded to the XPORT-PI with ISDN capability, a $500.00 value. Call today to learn more about this limited time offer!

XPORT	List 2,495.00	**Call for Price**
XSTREAM	List 4,355.00	**Call for Price**

MXB1002 1202VLZPRO

Quality, affordable portable mixers by Behringer and Mackie

The Behringer MXB1002 is a portable 10-channel mixer that runs on AC or battery power! It's packed with 5 mono, 4 stereo, and one tape return channels, with 3-band EQ on all, and XLR and 1/4" inputs. It even comes with rack ears!

The Mackie 1202VLZPro 12-channel mixer is excellent for broadcast remotes. Superior microphone preamps deliver low noise and high headroom. It includes 4 XLR inputs with preamps and phantom power, 12 high-headroom line inputs (4 mono and 4 stereo pairs), advanced DC pulse transformer RF rejection, 3-band EQ and more.

MXB1002	List 159.99	**129.99**	BEHRINGER
1202VLZPRO	List 489.00	**399.00**	MACKIE.

Reliable POTS/ISDN Codec Technology

The Tieline Commander POTS codec (model #TLF200) offers a built-in 2-channel microphone mixer. It's also upgradeable to ISDN. **Features:** bi-directional 15 kHz mono audio over standard telephone lines (or on ISDN networks with optional 15 kHz ISDN card using only one "B" channel); super-fast digital signal processing power gives you imperceptible delay (100 ms delay); 2 XLR inputs, software-switchable for mic or line levels; 2 headphone jacks; 20-bit A/D-D/A converters; programmable hot keys; stream text/control data and control remotely via any PC over the broadcast link (control your automation system from the remote broadcast site); type messages back and forth while you're broadcasting; user-selectable data channel bandwidth up to 9.6 kbps with simultaneous 7 kHz transmission under certain conditions.

The TLR200 is the rack-mountable Commander POTS studio codec, and the TIU200 is the optional ISDN card for either model.

TLF200	portable POTS codec/mixer	List 3,650.00	**Call for Price**
TLR200	studio POTS codec	List 3,790.00	**Call for Price**
TIU200	ISDN card	List 850.00	**Call for Price**

Complete Sony Wireless Systems

The Sony UWPS1 and UWPS2 are complete UHF diversity-reception wireless systems. The UWPS1 comes with a unidirectional condenser lav mic and bodypack transmitter, and the UWPS2 comes with a unidirectional dynamic handheld mic with an internal antenna; both offer level controls and 5/30 mW switchable RF power. The half-rack-size tuner is equipped with both balanced XLR and unbalanced 1/4" output. Two frequency ranges available – specify when ordering.

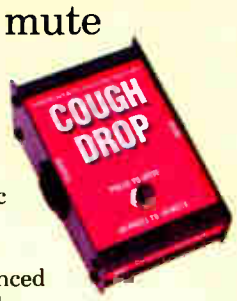
UWPS1	Lavalier/bodypack system	List 640.00	**499.00**
UWPS2	Handheld system	List 640.00	**499.00**

Exclusive Fender Passport portable 4-channel PA package

The Passport P-250 is a self-contained portable PA complete with a 4-channel, 8-input mixer, 2 full-range speakers. 2 dynamic mics and cables. It puts out 250 watts of stereo at 8 ohms and has 2 stereo channels, one-touch EQ; digital reverb; eight 6.5" drivers in two cabinets; storage for mics and cables; aux/amplifier send/return jacks; and weighs only 53 lbs. BSW's complete PA package adds Fender speaker stands/mic boom stands with a carrying bag, two floor mic stands, two P51 Fender microphone/cable kits, and foam windscreens for all your mics.

P250PACKAGE	List 1,405.00	**799.00**

Microphone mute switch



Quick, hit the cough button! The Cough Drop from ProCo is a simple mic mute offering clean, reliable performance with nearly any balanced or floating low impedence signal source.

COUGHDROP **35.00** ProCo

AM/FM tuner

The TU78 by Rolls is a tiny and affordable AM/FM tuner. It features AM/FM antenna inputs, stereo RCA outputs, a tuning control and an AM/FM Stereo/FM Mono band select switch. An LED indicates when a station is locked and another when a stereo output signal is present.

TU78 **79.00** ROLLS

BSW offers package pricing • Let us save you money on your next quote

800 • 426 • 8434 or online @ www.bswusa.com

Broadcast Supply Worldwide.
Your Best Source for Professional Audio Products.

BSW®

inues! Read All About it at www.bswusa.com

Products & Services
SHOWCASE

Clear Channel Radio, for $4.95/Month

by Craig Johnston

Web Watcher hears and reads the same shots you do from those in and out of the radio industry about Clear Channel Communications. One of the most prevalent is that its consolidation of the industry stifles ingenuity at the station level.

Some of the initiatives Clear Channel stations have taken over the past few years fly in the face of those charges. A most recent plan is a good case in point.

WTKS(FM) in Orlando, Fla., has a popular show, "Monsters of the Midday," that had been syndicated in other Florida markets. Though the syndication deal ended, out-of-market thirst for the show continued.

Clear Channel Radio's Vice President of Technology Brian Parsons told Web Watcher that to capture and monitize that demand meant the station had to move fast.

"We didn't want the audience to erode while we are putting the final touches on the subscription engine, which we hadn't planned to launch until fourth quarter," said Parsons. (Web Watcher has reported that Clear Channel was looking at the subscription route to recover the costs of their stations' streaming.)

WTKS has set the subscription fee at $4.95 a month. Though Clear Channel rushed WKTS into the subscription model, you can expect more to follow.

"I see a lot of potential in subscription streaming," said Parsons. "Radio broadcasters are in a unique position to create enticing value propositions to listeners by leveraging the promotional aspect of the business.

"For example I can partner with a restaurant chain to push $5 dining coupons and send you those as a subscriber. I may even be able to send you coupon swag that exceeds what you are paying as a subscriber."

Parsons said that though WTKS is the first Clear Channel station to adopt the subscription model for its streamed simulcast, the company has plenty of experience with subscriptions for syndicated radio programs.

★ ★ ★

When Internet radio's No. 1 dartboard pin-up girl, Hilary Rosen, resigned this summer, the Recording Industry of America Association reloaded with an unknown to the music industry. Mitch Bainwol's tenure as chairman and CEO of RIAA begins Sept. 1.

If Bainwol is unknown to the music industry (and to Internet radio), he's not an unknown where it counts: the Hill. He served as chief of staff for Sen. Bill Frist, R-Tenn., when the senator took over as U.S. Senate majority leader.

Most recently Bainwol ran his own lobbying firm The Bainwol Group. He has been executive director of the National Republican Senatorial Committee and chief of staff to U.S. Senator Connie Mack, R-Fla.

His new bosses at the RIAA see the value to these connections.

"Mitch brings to the RIAA the consummate insider's understanding of political nuance in Washington," stated Roger Ames, Chairman and CEO, Warner Music Group.

"He has proven leadership abilities, having guided some extremely successful legislative and policy initiatives in recent years," stated David Munns, CEO of EMI Music North America.

While much was made of his Republican connections in stories of his taking the new job — Rosen was a Democrat — those who have worked with him say he has respect from both sides of the aisle.

Some in the industry have postulated that the job was hard to fill. They point to the sniping Rosen took, not only from those on the other side of the music copyright royalty issue, but equally from her record label bosses who felt she was not doing enough to stamp out music download piracy.

Bainwol was unavailable to speak with Web Watcher at press time. In an RIAA release he stated: "I'm delighted to take on this role. It is an honor to be associated with such a talented and creative group. I am especially pleased to be working in partnership with Cary Sherman (RIAA president), and look forward to tapping into his expertise about the music business.

"What could be more rewarding than helping to promote two great American traditions: music and property rights?"

Mitch brings to the RIAA the consummate insider's understanding of political nuance in Washington.

— Roger Ames
Warner Music Group

★ ★ ★

In a Las Vegas brewpub during the 2003 NAB, Web Watcher heard Kurt Hanson, publisher of the online Radio And Internet Newsletter, touting the sale of Internet radio ad inventory as one big network. Since then, he has turned talk into action.

Hanson's venture is named Gigabuy. It is easily summed up in his phrase "one buy of the entire medium."

Hanson notes that during the middle of the day, with all of the in-office listening to Internet radio, the combined rating equals that of the 15th-largest radio market. The problem is that it's made up of thousands and thousands of individual Webcasters.

Expecting an advertiser to make thousands and thousands of buys to reach a critical mass of listeners is unreasonable, he reasons. But what if the advertiser could reach that audience by making one buy, receiving one invoice and writing one check?

Hanson took the idea on the road to some key advertisers in late July. He reported good feedback from the trip and laid out a schedule of steps including a logistics test, sales calls in late August and early September, culminating in running the spot schedule in October and November.

If the venture is able to get participation from Internet radio stations representing half the total Web listenership, by Hanson's calculations an advertiser running a spot once every two hours would be making 750,000 impressions each month.

While this plan should obviously be attractive to Internet-only Webcasters who have no national representation for spot sales, Hanson sees a place for terrestrial radio stations that simulcast their programming as well. If stations aren't, in fact, selling their Internet inventory, this may be just the ticket.

After all, one of Web Watcher's basic rules is that some income is better than no income.

Many details are still being worked out, but Hanson suggested that 20 percent of the ad income would be held back for sales and administrative costs.

★ ★ ★

As Web Watcher reported last month, America Online's Internet radio stations have dominated Arbitron's Webcaster ratings from the beginning of AOL's subscription to the ratings service. That dominance has continued.

It is worth noting that Arbitron has made two changes to the way its ratings are posted. One is that "sales networks" are now listed among Internet radio networks. A sales network is defined as a group of individually owned Internet radio stations being sold collectively. Content delivery networks, which do not sell ad inventory collectively, were dropped from the listing.

This resulted in two such sales networks being listed in the top five networks in a weekly ranking in July. The Adsertion Network and WARP Radio attained the fourth and fifth positions in Arbitron's network listing, following AOL Radio Network, Launch and the subscription MusicMatch in slots one, two and three.

The second change is that Arbitron now differentiates between "commercial" and "non-commercial" Webcasters. (Non-commercial also includes subscription services.)

While this change does not affect the order of the listings, it makes them more helpful to a perspective advertiser by indicating whether the station or network sells ad inventory.

NEWS MAKER

Cuba Libre: Hernandez Takes Reins

Radio Martí Has a New Director With a Familiar Mission

by Steve Sullivan

For the heads of most radio stations, success is measured in terms of revenue. But for Jorge Luis Hernandez, success will come with the transition of one nation's government from communism to democracy.

That's the lofty goal of Hernandez, the latest Director of Radio Martí, the government-run station that blasts news, information and music 24/7 at the communist-controlled island 90 miles off the tip of the Florida keys.

The Cuban-born Hernandez was selected to the post in mid-July. He is a veteran broadcast journalist from the Miami area, having previously served as the director of WOCN Union Radio, news director for WQBA La Cubanisima Radio, and most recently as media director for the city of Miami.

Hernandez understands the challenges ahead. But he comes to the position with a sense of pride and commitment.

"I think it is a privileged to me to be able to help our government in the process of promoting democracy in a critical moment for the people of Cuba."

Foreign policy relic?

With seemingly more-immediate and dangerous threats in the Middle East and Korea, these days worrying about Cuba seems almost quaint. And Radio Martí is something of a foreign policy relic of the late 20th century.

The station was born when President Ronald Reagan made it clear he wanted to create an entity to broadcast directly into Cuba. But it wasn't an easy birth. The Senate nixed a budget proposal in 1982. But legislation was passed the following year and on Oct. 4, 1983, Reagan signed the Radio Broadcasting to Cuba Act.

It was May 20, 1985 before Radio Martí signed on the air, broadcasting on 1160 kHz from studios in Washington.

In 1990, the Office of Cuba Broadcasting or OCB was established to oversee the operations of Radio Martí and its television counterpart, TV Martí. Four years later, the International Broadcasting Bureau was formed by the International Broadcasting Act.

This group oversees Radio and TV Martí, Voice of America, Radio Sawa and WorldNet Television and Film Service. The IBB also provides various support programs to Radio Free Europe/Radio Liberty and Radio Free Asia.

In 1996 the station moved to its current location in Miami.

Target for criticism

For an operation with such noble aims, through the years Radio Martí has received considerable scrutiny and criticism.

With the absence of the European Communist bloc and with Fidel Castro aging, some consider the effort to democratize Cuba a low priority. Given an increasing federal deficit, some critics in and out of government feel the return on investment is not as valuable as it once may have been.

The station's operating budget for fiscal year 2003 tops $15 million at a time when Radio Martí's audience is experiencing a serious decline. A government report in 2002 noted that Radio Martí's audience had plummeted more than 65 percent in the previous 10 years.

Hernandez is pragmatic about the difficulties in maintaining the funding for the station, saying, "funding is always a problem no matter where you are."

The station's news judgment has been questioned frequently. Radio Martí has been accused of practicing substandard journalism and exhibiting a political bias in much of its programming.

The station came under heavy fire in 2001 for being late in reporting that Elian Gonzalez was taken from relatives' home and returned to his father. Radio Martí did not report this incident, which occurred in its own backyard, for nearly four hours, lagging behind even Cuban stations.

There have been shots taken at Radio Martí's behind-the-scenes operation, too. A former news director for Radio Martí once said in frustration that the station was "out of control and very unprofessional."

Hernandez is more than aware of the criticism. He admits that in the past been among the critics. But he feels these are issues that can be fixed.

Outsider inside

"Until recently, I was one of those who had a view of Radio Martí from the outside. But just in a few days, from meeting the people here and having a first look at the operation inside the station, in my opinion it's not as bad as outsiders might think.

"I'm not saying everything is perfect. We have a lot of room for improvement, but it's not as bad as some people might say," he said.

"We have a group of committed people here, people with a lot of experience who are very knowledgeable on the Cuban subject. I would like Radio Martí to be exactly what it is supposed to be: a professional broadcasting station that will help the government of the United States to promote democracy in Cuba. I think we can achieve that goal."

Hernandez said among the changes he will implement is a total and complete restructuring of the station's programming to improve the news and information services.

"We are studying the previous reports and studies we have as to how to improve our programming and make this station more credible and appreciated by the people in Cuba."

The director realizes the monumental task ahead. Once he addresses all the internal issues, there is still a huge obstacle between Radio Martí and the successful achievement of its mission: Cuba.

Hernandez says that Cuba's interference with Radio Martí's signal is a top concern.

"We have very good reception in some parts of the island. But the government makes an extraordinary effort to block our signals in Havana. How to respond to the challenge of Cuba's interference and blocking the free flow of ideas from reaching the island is, in my opinion, a priority."

He says he will look into expanding the ways Radio Martí reaches the country.

"We broadcast in 13 different frequencies in shortwave and one frequency in AM. One way to improve the reception in Cuba would be to increase the shortwave frequencies and the AM signals that go into Cuba."

He said the OBC streams its programming on the Internet and is exploring the use of satellites to send radio and TV signals. But he concedes that it is almost impossible to gauge how effective those methods of transmission would be.

"How many satellite dishes are in Cuba? Cuba is a country in which it is a crime to have a satellite dish unless you are a high-ranking official of the government or unless you are a tourist in one of the hotels. Otherwise, you are sent to jail. The same goes for computers. You cannot see the Internet in Cuba unless you belong to the government or unless you're hiding it from the government.

"It's difficult to quantify those sorts of things in a closed society like that."

How will Hernandez know he's successful?

"First, by making sure that our operation does a professional job. That we have accuracy, objectivity, balanced programming and that we have the credibility that this station should have with the people in Cuba.

"We are constantly doing focus groups with people who arrive from Cuba. We receive lots of transmission reports from every part of the island. In other words that we have credibility with the people of Cuba, so that we can do what this station was created for, which is to offer the people of Cuba a window of democracy, a reflection of what democracy is in the United States of America.

"I believe if we can achieve that, we can operate to the standards of the Voice of America or Radio Free Europe, which I think we can. We have an excellent group of people working here at the station, we have an excellent chance of achieving our goal."

Jorge Luis Hernandez

Important goal

If Hernandez and Radio Martí are successful and the people of Cuba opt for a democratic government, would that political victory, in effect, put Radio Martí out of business?

"I don't think so. Is Radio Free Europe out of business? Historically the United States has played an important role in the life of Cubans. Especially, I would say, after Castro. It's a country that after Castro will have to build a democratic society, civil institutions and a very strong civil society without which no country would be able to succeed.

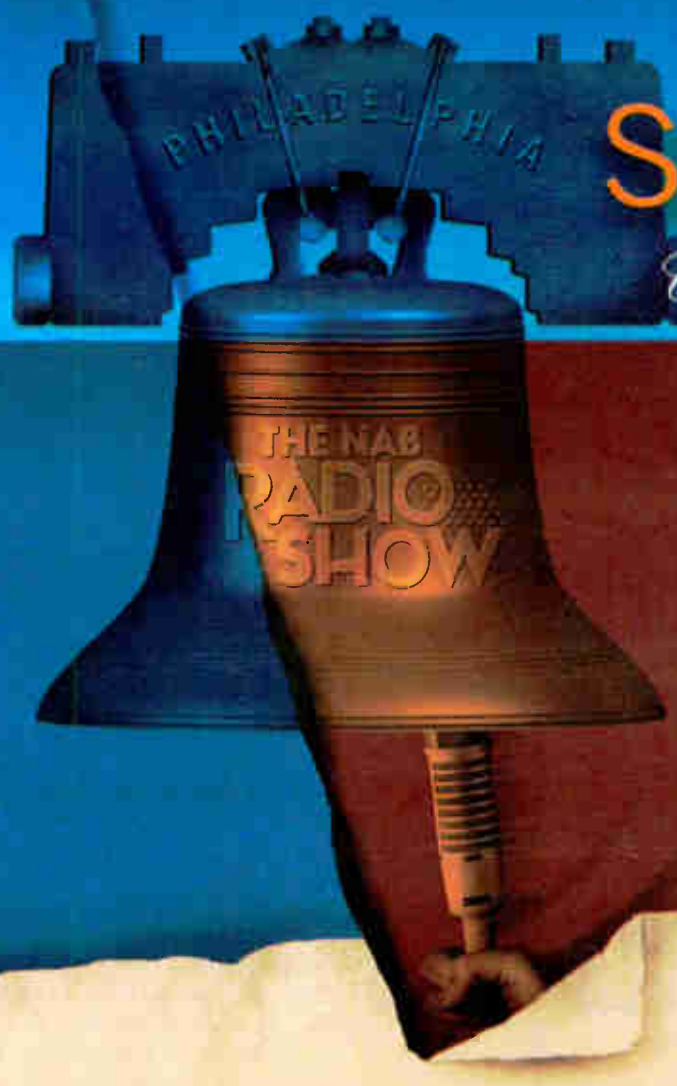
"I think the role for Radio Martí in the Cuba post-Castro will be more important than ever to let Cubans know how democracy and the free play of ideas and discussions exist in the United States. I think Radio Martí will definitely have a very important role, together with the United States government, in the future of Cuba."

Steve Sullivan is executive news editor for multimedia at The Baltimore Sun and co-founder of the Advanced Interactive Media Group LLC.

Radio Martí

Along with TV Martí, it is a part of the Office of Cuba Broadcasting, which is overseen by the U.S. International Broadcasting Bureau. Radio Marti broadcasts 24 hours a day, 7 days a week on one AM and 13 shortwave frequencies.

Based: Miami
Director: Jorge Luis Hernandez
First broadcast: May 20, 1985 from Washington, DC
Staff size: 108
2003 budget: $15.9 million



Station to Nation

Come Together. Revolutionize Radio.

2-for-1 Registration — NAB Members Only!

For more information go to:

www.nab.org/conventions/radioshow

Wednesday, October 1
Super Session

John Walsh
America's Most Wanted
ABC Radio Networks

Sponsored by: ABC News Radio

Thursday, October 2
FCC Breakfast

Commissioner
Kathleen Abernathy

Sponsored by: A.G. Edwards

Thursday, October 2
Keynote Address

Rush Limbaugh
Premiere Radio Networks

Sponsored by: Radio Hall of Fame

Thursday, October 2
Group Executive Session

Moderator
Sean Hannity
The Sean Hannity Show
ABC Radio Networks

Group Executives Including:

Mary Quass
NewRadio Group, LLC

Ginny Morris
Hubbard Radio

John Hogan
Clear Channel Radio

Sponsored by: Interep

MARCONI Radio AWARDS

Thursday, October 2
NAB Marconi Radio Awards Reception, Dinner & Show

Master of Ceremonies
Steve Harvey
Comedian & Host
KKBT-FM, Los Angeles
Syndicated by Radio One

Sponsored by: Interep

Friday, October 3
Radio Luncheon

NAB National Radio Award Recipient

Erica Farber
Radio & Records

Sponsored by: The Advantage of ASCAP

October / 1-3 / 2003
Pennsylvania Convention Center, Philadelphia

THE NAB RADIO SHOW

Pfanstiehl Honored by IAAIS

Founder of the Metropolitan Washington Ear Expands Horizons for Information Access

At a ceremony in June, the International Association of Audio Information Services presented its C. Stanley Potter Award to Margaret Pfanstiehl. The organization's members provide access to printed information for individuals who cannot read conventional print because of blindness or other visual, physical or learning disability. Bill Pasco, past president of IAAIS and director of Sun Sounds of Arizona, made the presentation; these are his remarks.

The C. Stanley Potter Award is the highest award bestowed by IAAIS. It is not presented lightly. It is not necessarily awarded at all. This award is presented to recognize and honor outstanding contributions to the audio information industry by an individual, group or organization.

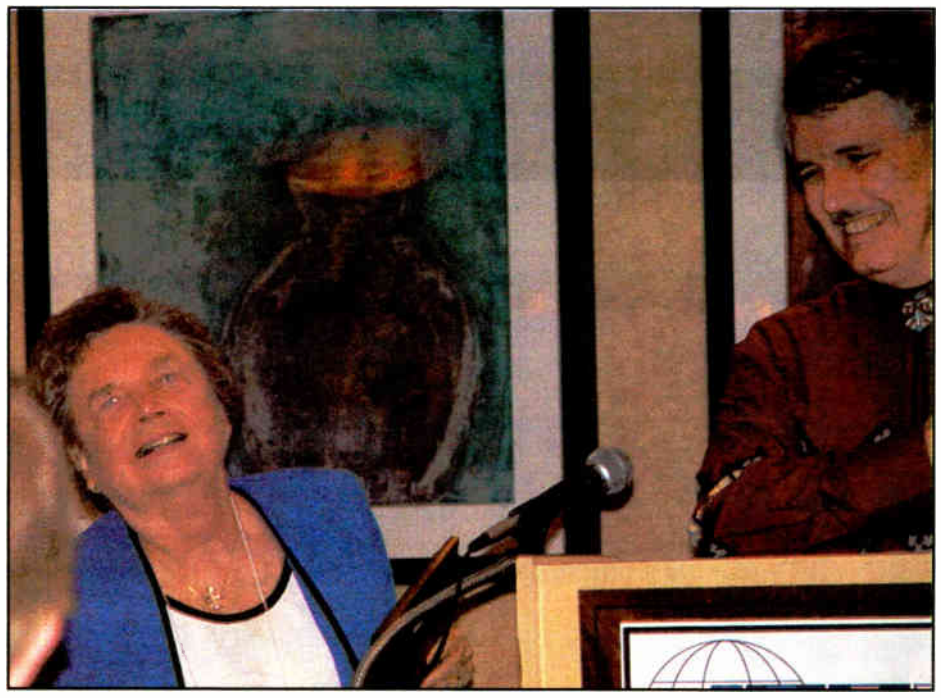
C. Stanley Potter is generally viewed as the father of radio reading and one of the pioneers in the field of information access for disabled people. C. Stanley Potter was the first president of IAAIS, and the first recipient of the award that bears his name.

An Ear to the air

Margaret Pfanstiehl has been on the cutting edge of the information access movement almost as long as the movement has existed.

Margaret is the founder and president of the Metropolitan Washington Ear, which was one of the early organizations to launch a radio reading service in the 1970s. Margaret, who is blind, has always had an acute awareness of what could and should be done to make information access, in its various guises, a normal part of everyday life for the print-disabled community.

The Washington Ear pioneered many of the innovations in radio reading that are now taken for granted among radio reading stations in general. The Ear was the first reading service to go beyond pure reading to a passive audience to introduce the concept of what we now might call "continuing education" using the radio station as the instructor, and providing companion Braille documents to go along with the class room learning.



Margaret Pfanstiehl and Bill Pasco

The Ear was one of the first reading organizations to recognize that reading services have an obligation to be activist organizations promoting the independence of print-disabled people through information access.

Margaret was one of the founding members of the organization we now call IAAIS. At the time it was called ARRS or Association of Radio Reading Services. It was during a Washington, D.C., conference hosted by the Ear and Margaret that the organization came into being in 1977.

She was an early board member and officer for the association, helping to create much of the association's philosophy and infrastructure, which were built on to bring us to the organization we have today.

Margaret's work and vision didn't stop with pioneering radio reading, however. In the mid-1980s when the concept of dial-up reading services was first introduced, she was one of the first and most outspoken advocates of the concept. She launched one of the first dial-in systems in the country.

This activity proved to be the crack in the dike that allowed IAAIS to begin to view information access as the end, and radio reading as only one tool of providing it. This lead to the embracing of many different technologies that could provide various forms of information access.

Audio description

Again, not being content to sit on her laurels, Margaret herself pioneered another one of these variations in the field of information access. She introduced the idea of audio description.

At first it had nothing to do with television. Rather, she began organizing and training people to provide description in the live theater. The idea rapidly jumped from that fairly limited application of description to television, museum and movie description. Margaret's methods were adopted by many other organizations across the country, not the least of which was WGBH, the primary proponent and producer of descriptive video.

Margaret has remained active and tirelessly worked for ever-increasing access to video. Though the recent court ruling against the FCC can be viewed as a setback, she was instrumental in getting the FCC to mandate video description.

Though Margaret has at times been inside and directly involved in the IAAIS, she has also often had to be outside and sometimes at odds with the establishment of IAAIS because her activism demanded it. For this reason, she has been overlooked as a candidate for the Potter award for far too long.

There are not many who have worked so long and so hard, and been so effective in expanding the horizons of information access. From radio reading, to dial-in service, to descriptive theater and descriptive video, she has been at the vanguard, leading the way in the fight to provide information access and a more independent life for print-disabled people everywhere.

'This activity proved to be the crack in the dike that allowed IAAIS to begin to view information access as the end, and radio reading as only one tool of providing it.'

For all of these reasons, it is my great honor and pleasure to present the 2003 C. Stanley Potter Achievement Award on behalf of IAAIS to Margaret Pfanstiehl.

It's one of the quieter corners of the big world of radio, but for the people it serves, it's indispensable.

The International Association of Audio Information Services' 2002 Awards were presented at its annual conference recently. IAAIS is an association of independent, volunteer-driven services that use audio technology to turn print into speech. Among its distribution methods are radio reading services.

The winners: Houston Taping for the Blind Radio, in the categories of narrative reading and newspapers; In Touch Networks in New York for interviews/call-ins and newspapers; Radio Reading Services of Greater Cincinnati for narrative reading and entertainment; Sun Sounds of Arizona - Phoenix for news digest; Talking Information Center in Marshfield, Mass., for magazines and information; VoicePrint of Toronto for public awareness and thematic production; WCRS in Akron, Ohio, for on-location, entertainment and interview/call-in; WLRN Radio Reading Service in Miami for news digest; and WXXI Reachout Radio in Rochester, N.Y., for information.

Ministries Put Web to Work, Too

by Craig Johnston

Web sites have become vital arrows in the quivers of religious broadcasters, so much so that the National Religious Broadcasters devoted a "boot camp" to the subject at a recent convention.

"I think the Internet as a whole is still trying to find its natural method of communication," said Rick Killingsworth, vice president of Salem Communications' Salem Web Network, "much like when television was first started, all it basically put on was radio shows."

Very different

Killingsworth, who moderated a Web site clinic session, noted that TV eventually found its own niche. "Now radio and television are very different."

"The Internet is still somewhat in its infancy — let's say 'adolescence' is a better word — and it's trying still to be radio, it' s trying to be magazines, it's trying to be TV," he said. "The answer is, it may be all of those things. And it may, in addition to that, add an interactive element, the ability to talk back to the publisher of the site, and to each other."

> **I think the Internet as a whole is still trying to find its natural method of communication.**
>
> — Rick Killingsworth

In Touch Ministries' Director of the Interactive Media Division Eric Brown echoed Killingsworth's comments about the need for religious broadcasters to reevaluate their Internet operations.

"I think early on you had a lot of people who adopted the Internet because they looked and said, 'Hey, the bandwagon's going by, I better jump on. I don't know much about it, but I see other people jumping on so I better jump on too.'"

One of the issues Brown said he finds broadcasters assessing is their guiding strategy. Using his own experience at In Touch as an example, he pointed to their examination of the strengths of In Touch Ministry's Dr. Charles Stanley.

"There are other ministries that have strengths in evangelism, strengths in youth focus," Brown said. "Dr. Stanley's (strength) is principally in discipleship, teaching people who they are in Christ, who Christ is in them."

He cautioned that it is important to figure out how a religious broadcaster's Internet operation fits into the rest of the operation.

"Some mistakes I've seen in other organizations, and one that we made early on, was not factoring in how it affects our organization as a whole. Interactive technology affects the ministry and organization as a whole."

One of the key points of conflict he found can be the differences in timelines between those working with the Internet and employees in other areas.

"Internet folks would have an idea and the broadcast and radio folks would say: 'We're three or four months out and we really can't do that,'" said Brown. "It's really taking all that into consideration, looking at each asset, each department of your organization and seeing how they can interrelate, how they can change some of the business processes that you had established."

Tom Perrault, executive editor of Christian news and information provider Crosswalk.com, presented his strategy for use of e-mail lists.

"Growing your e-mail list is one of the more inadequate areas for most broadcasters and ministries alike," he said. "You have to send people timely, relevant, personal communications on a regular basis in order for that e-mail list to be really useful."

Perrault said it is critical for broadcasters to build the trust of listeners when developing a list.

"There used to be a lot of gimmicks and offers in the past that may not have been clear, depending on the organization. The landscape now strictly dictates you be very clear what somebody is signing up for, what they'll be receiving and how often they'll be receiving it, etc.," said Perrault.

"You can offer people freebees, incentives, anything you want to get them to opt in, but be sure they know what they're going to be getting when they're going to be getting it, and make sure you always make it very obvious and easy for them to discontinue at any time they want."

Because it can reflect on a ministry's entire reputation, Perrault said it is especially important to make opting out of an e-mail list a simple operation. "It should be an instantaneous opt-out. They shouldn't have to go through any hoops. It should be really fast and easy and efficient to get off that particular e-mail list."

Perrault noted that even when a listener wants to receive a religious broadcaster's e-mails, one of the challenges lies in writing e-mail that will pass through spam filters. He focused on certain words to leave out of the body of the text.

"There are certain words that will be flagged if they exist in the body of your e-mail text, such as 'click here' or 'act now' or 'join.' Servers will look for those, because the assume them to be spam and unsolicited."

He said the spam filters are updated constantly, so Internet operators must stay abreast of the latest list of words to avoid.

USER REPORT

Companies Soundproof WDAV

by Kim Hodgson
General Manager
WDAV(FM)

DAVIDSON, N.C. WDAV(FM) is a 24/7 classical music public radio station in the small college town of Davidson, N.C., serving the Charlotte metropolitan area.

My love affair with modular studio construction began in April of 1999, six months before I became WDAV's general manager, when I attended the NAB convention in Las Vegas. Acoustic Systems had set up a small room about the size of an announce booth in a noisy exhibit hall. When I stepped inside and closed the door, every trace of sound simply vanished. It was a revelation.

A year later I was settling in at WDAV, and we were in the early stages of planning for a facility to replace the 3,000-square-foot building, made of cinderblock and sand, we had occupied since the mid-1980s. Many staff members were doubled up in offices intended for one person. Our technical facilities, which consisted of two control rooms on either side of a "studio" that had morphed into a storage room, were tiny, dark, acoustically porous and technologically obsolete.

We had tentatively settled on a place to build, a vacant lot on Davidson's Main Street across the street from Davidson College's main campus. Our architect: John Burgess of Burgess Design Associates in Davidson.

John knew the town well and was the perfect architect to design a building compatible with the historic character of the block. But he knew little about acoustical design and less about radio stations.

I remembered how impressed I had been with the Acoustic Systems display and called my colleague Wally Smith, who had recently used Acoustic Systems rooms in a new facility he built for NPR station WLIU(AM) in Southampton, N.Y.

WDAV celebrates its new facility with a live classical performance by pianist Jon Nakamatsu and cellist Alan Black.

Wally's enthusiastic recommendation was too much to ignore. At his behest, I contacted Arty Ware, design consultant with Northeast Communications Concepts. Arty has vast experience designing for Acoustic Systems installations, and he soon spoke with our architect and the Davidson College team that would be supervising construction. We also consulted a local designer of conventional stick-built studios.

After interviewing both men, we thought hard about what we needed. Our criteria consisted of five completely soundproof rooms, air control, production control, a modest-sized performance studio and two small edit rooms with decent acoustics.

We needed daylight in all the rooms and we needed them to be built to these specs by crews experienced with this type of facility. In other words, every precaution was taken to avoid human error in the construction of these critical spaces. Oh, and did I mention the railroad tracks 50 yards from the technical wing of the building?

Given these criteria, Acoustic Systems and Northeast Communications Concepts seemed like the obvious choice. Acoustic Systems guarantees that its rooms will meet specs, and the rooms are installed in your space by a crew of specialists skilled in this type of installation. Our crew came down from Washington, where they had just finished a gigantic installation for XM Satellite Radio, and really knew their stuff.

Arty Ware played an invaluable role. Thanks to his knowledge and obvious credibility, he was able to work with our architect to bring about significant changes in the basic design of the building — changes that made the difference between a great facility and a mediocre one.

Always sensitive to our constraints, Arty successfully argued for what I would call "right-sized" rooms: large enough to do the job well, but hardly ostentatious in terms of size or finish. Construction began in January of 2002, and the Acoustic Systems rooms were installed in July.

In our case, the five Acoustic Systems rooms together weighed more than 69,000 pounds. This may sound like a lot, and indeed, the construction crew added more reinforcement to the concrete slab that underlies the wing of the building. However, because this is less than the weight that would have been required to construct to the same specs using acoustically isolated concrete slabs and stick-built walls, we actually saved on the structural reinforcing in the technical wing of the building.

We began broadcasting from WDAV's new facility on Dec. 29, 2002. Two months later we officially dedicated the building with a live performance from our 400-square-foot performance studio featuring Van Cliburn Competition gold medal pianist Jon Nakamatsu and Alan Black, principal cellist of the Charlotte Symphony

See ACOUSTIC SYSTEMS, page 37 ▶

USER REPORT

WSDG Fits Bill for GAP Digital

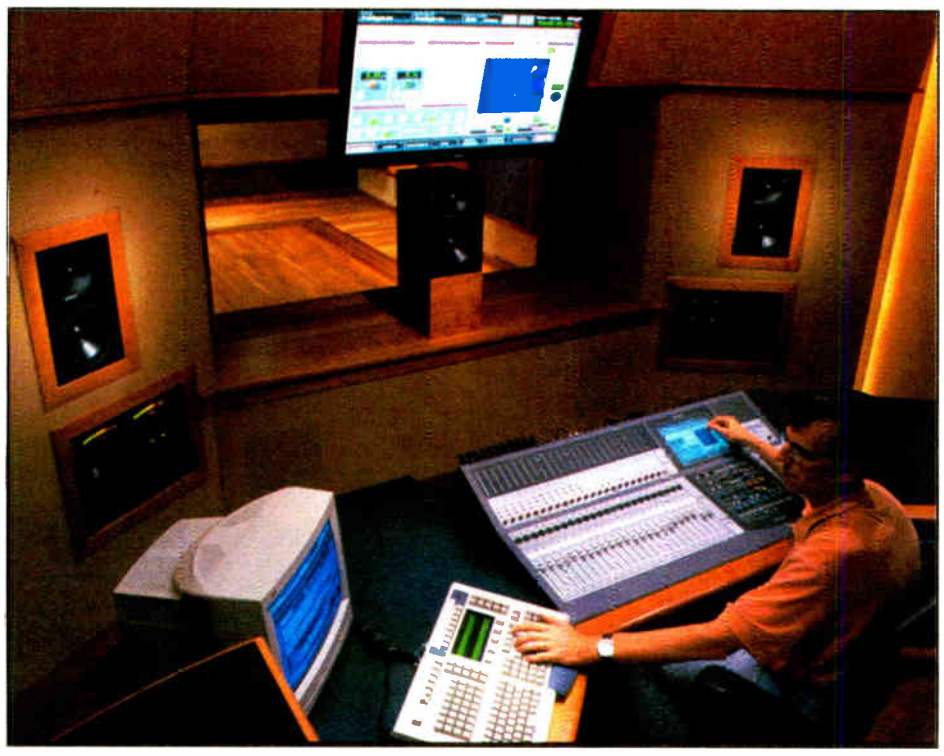
by Todd Busteed
President
GAP Digital

CHICAGO Picking a studio designer is a lot like picking a wife. You're going to experience a lot together, so it's best to have some common interests and get to know one another.

Information is the first step in designing a studio for this reason. When GAP Digital, a Chicago-based audio production company, needed to expand, we purchased a building that housed a number of radio studios and assembled a RFB, or request for bid, knowing that we wanted to update the facility.

The RFB specified the space allotment and what we wanted in terms of design and function. The negotiations flowed best with Walters-Storyk Design Group, and its principal, John Storyk, out of eight designers courted. This was especially gratifying because I have enjoyed the aesthetic tone of his designs as photographed in trade journals through the years.

John jumped on a plane immediately after hire and spent a day reviewing every inch of our space, looking at structural, aesthetic and technical issues he and his team would address before delivering drawings. The space was documented by digital photos, measurements and added notes to our RFB.



The author works in GAP Digital's newly renovated studio.

Additionally, John spent the drive from the airport determining design and functional elements essential to the facility.

With John, the wheels are turning before he walks in the door. He pops off ideas about natural light, bold ceiling ideas and lines of sight as he takes measurements. This kind of creative input energizes the process.

The architect also meets with the builder to confirm concepts of "shorted surfaces," "floated floors" and "non-parallel walls" to avoid any confusion. In our case, he discussed the challenges of working within the given vertical space without sacrificing ceiling height.

Once the survey site is complete, basic line drawings begin to arrive. Suggestions are sent back and, over a period of time, we hone in on the details to be compiled into the "build set." This is the set of drawings that tells the builder everything he needs to know to put the place together. Of course, there are always inevitable glitches and hits along the way.

The documentation phase took place before demolition, which is typical of a renovation. As one would imagine, surprises were hiding behind the old studio walls. For example, our web grid girder ceiling was constructed with rebar welded in between each girder. Upon finding this, we had to confirm that the welded cross members were not structural. We then removed them so the planned ceiling design could be installed.

The ceiling is one of the many areas where the architect's most important work goes unnoticed. In floated spaces, the weight of all surfaces has to be taken into consideration. John's team determined gauge of ceiling girder, vertical support capacity of the walls and the arrangement of the float system based on the weight of the ceiling, walls and floor. He actually did calculations to determine what our live rooms weighed!

We needed a studio architect to take an existing studio complex and bring it into the digital age.

The studio designer moves away from the standard architect in the myriad of acoustic details to be addressed. John provided a detailed spec for the HVAC designer, to which he was to adhere.

I am happy to report the resulting system can be felt, but not heard. The facility's proximity to a rail line was addressed with unique isolation techniques. The mass of cabling, both within the rooms and running from the central machine room, was placed in an accessible, yet inconspicuous, spot.

Perhaps most important, the room symmetry, low-frequency trapping, monitor placement and audio energy dispersion were positioned to maximize the listening environment in the control rooms.

A renovation project involving three studios, a lounge, bathrooms and a machine room is not without its surprises. The architect could never anticipate all the possible curveballs that may be thrown. But when you have a cohesive, comprehensive (not to mention creative) plan, it is much easier to deal with glitches. WSDG provided such a plan for us and we're very satisfied with the results.

For more information, including pricing, contact Walters-Storyk Design Group in Chicago at (845) 691-9300 or visit www.wsdg.com.

USER REPORT

Lawrence Group Keeps Past Alive

While the Exterior Reflects Historical Style, Northwestern's Media Center Is Cutting-Edge

by Paul Virts
Senior Vice President of Media
Northwestern College & Radio

ST. PAUL, Minn. The Mel Johnson Media Center, designed by St. Louis-based architectural firm The Lawrence Group, is a state-of-the-art 40,000-square-foot broadcast facility on the Northwestern College campus. The building houses KTIS(FM-AM), Skylight Network and an Internet station, as well as the television and radio educational programs. It is a visitor's first interface with the Christian college; its 67-foot backlit tower serves as a beacon to the community.

The architectural style of the media center acknowledges the connection of the campus to the past and makes a statement about its commitment to the future. The Lawrence Group selected exterior materials that reflected the historic 19th-century campus.

The Mel Johnson Media Center

The structure is concrete and steel with a skin of cast limestone and brick. An atrium skylight and large windows fill the interior with natural light, creating a pleasant environment for its occupants.

The Lawrence Group did a lot of assessment and was very responsive to our needs. Before this new facility was built, we had to make our old space, which had been a Catholic seminary, work. This new space was designed from the outset for broadcast use and creates a new efficiency with a very high-tech, modern look and feel.

The Lawrence Group also designed a display area to showcase the college's technical equipment. The 22 racks housed in glass at the north end of the media center are a focal point from the first-floor atrium.

Visitors can now come through and see all the monitors and equipment, and get a feel for the environment at the station. Sometimes it's a struggle to make broadcast equipment visually exciting to people. I think they've done a great job of turning the rack room into an exceptional component of our building.

In addition, a space, flooded with natural light, was created to facilitate traffic flow between departments and studios.

The Lawrence Group captured the essence of our station. Everyone is wowed with the equipment. We've been told it's the best radio facility in the Twin Cities.

For more information, including pricing, contact the company in St. Louis at (314) 231-5700 or visit www.thelawrencegroup.com.

USER REPORT

Balsys Renovates Fla. Reading Service

'Refreshingly Different' Newcomer Offers Durable Customized Studio Furniture

by Mike O'Shea
Chief Engineer
WUSF(FM-TV)
University of South Florida

TAMPA, Fla. WUSF(FM) had the opportunity to refurbish its Radio Reading Production Studio this year. Included in the project were a new console and various pieces of ancillary gear, as well as replacement of the furniture, which was well-worn and ready for retirement. We obtained furniture quotes from the usual industry sources, but awarded the order to a relative newcomer, Balsys Wood Arts.

Although the RRS Studio is relatively small, and storage and bench areas share the room, we wanted it equipped with provisions for a host and three guests. There also was an awkwardly located but unmovable electrical outlet in the floor; the furniture had to be built to take its location into consideration. The only access to the space was limited by several hallway twists and turns and a 34-inch door.

I sent room drawings, specifications and concepts to several suppliers, but most replied with standard-model configurations that just didn't work to my satisfaction or budget.

Balsys Furniture combines aesthetics and ergonomics.

The reply from Balsys was refreshingly different. They don't build standard configurations. Every unit is designed for the facility, taking into account special needs and considerations, custom-built and pre-assembled at the factory, then disassembled into manageable pieces for easy on-site assembly.

I worked with them through several variations of my concept and finalization of the design, down to colors and finishes, including manageable wiring access throughout the unit and a double-wide keyboard drawer that several other suppliers refused even to consider.

I note that I did not take up the offer of complete pre-wiring, systems installation and testing offered by Balsys sister company Balsys Technology Group. This could be valuable for many facilities; in our case this just wasn't a requirement.

Balsys personnel delivered the furniture upon completion, installed and leveled it and cut the major wiring access holes on site to make sure everything was optimized. The whole process took just a few hours, which made me wonder how long I would have needed to install typical furniture that is delivered as a "kit."

We now have a new studio of which WUSF can be proud. The look is great, the ergonomics are excellent, and the furniture construction is rugged enough to withstand years of heavy production use.

But it's the little things and attention to detail that matter, and our unit meets all criteria. I am impressed with the Balsys craftsmanship, quality of materials and service, but perhaps even more so with the price.

For more information, including pricing, contact Balsys Wood Arts in Florida at (407) 656-3719 or visit www.balsys.com.

USER REPORT

KWZA Sitting Pretty With Hydraflex

by Bill Bailey
Chief Engineer
KZWA(FM)

LAKE CHARLES, La. The finishing touch to any radio studio is its furniture and cabinetry. Furniture often is overlooked when designing and building a new studio, but comfort and style are necessary elements that need to figure into any workplace.

At KZWA(FM) 105.3 in Lake Charles, La., we did not forget the impact that stylish, comfortable, durable furniture can have on a radio studio. We designed our furniture with those features in mind.

After years of planning by our owner and general manager, Faye Brown-Blackwell, we finally went forward with raising funds for building a facility. During the design process, one of our donors suggested we contact Harris regarding our studio furniture.

We got in touch with Harris representatives and gave them rough sketches of what KZWA needed and wanted. We have an oddly shaped room that needed specially designed furniture in order to fit in the room. We were able to e-mail back and forth with Harris until we came up with the design that fit, at no additional charge.

Stand up, sit down

Customization was what first drew us to Harris. Not only is the design created expressly for our station, but the furniture uses top-quality materials to create the durability KZWA needs.

Like any other station, we need the furniture and cabinetry to stand up to the wear and tear that seem to be a part of life at a radio station.

With Harris, we found what we were looking for. The cabinetry used is cabinet-wood quality and has excellent soft, molded edges that stand up to the use at a radio station. We also were given many options in terms of laminates. We had several Nevamar samples to choose from. Once our choices were made, Harris sent 3D renderings of exactly what our furniture would look like, with the colors and design we selected and the equipment in place.

Tammy declares the furniture has helped her a great deal. She happens to be much shorter than most of our hosts. Before we installed the new furniture, she spent much of her time in the studio standing on her toes in order reach the equipment set for her taller colleagues. Now she can sit on a stool and adjust the furniture to a comfortable height for her.

The adjustable furniture also keeps our station in compliancy with the Americans with Disabilities Act. There are five guest microphones on a surface that can be adjusted for any height.

Whether (personalities) want to stand during their airtime or prefer to remain seated, Hydraflex furniture can be changed with the touch of a button.

Another reason for choosing Harris was its unique Hydraflex furniture, which we incorporated into the design. The Hydraflex furniture uses hydraulics to raise and lower the height of the countertops. This may not seem like an important feature, but our on-air personalities spend hours at a time in the studios, and their comfort is important. Whether they want to stand during their airtime or prefer to remain seated, the Hydraflex furniture can be changed with the touch of a button.

Our hosts love the adjustability of the Hydraflex. In fact, Tammy Tousant, our Sunday afternoon host, particularly enjoys the flexibility of the Hydraflex.

Furniture may not seem like an important area of focus. In fact, it may not be something even considered beyond a necessity. But a radio station's staff and guests bring the station to life, and their comfort should be on the radar of every station manager and owner. Well-designed furniture also brings style to a station. With customized furniture, we were able to choose the design and features we wanted. This wasn't cookie-cutter — it was designed for KZWA exclusively.

We are proud of our new facility and we love to show it off. Our furniture has the functionality, style and durability we need for our busy station.

Bill Bailey's first broadcasting job was sitting on a morning host's knee and providing sound effects in the early 1950s. His father Clovis started KJEF(AM) in Lafayette, La., in 1949. Bailey got his First Class license when he was 13 and has been soldering and DJing since.

In 1995, the family station, which had grown into an AM, FM LPTV combo, was sold and Bailey became a contract engineer.

For more information, including pricing, contact Harris in Ohio at (513) 459-3400 or visit www.broadcastharris.com.

Upcoming Buyer's Guides

Sept. 24	Audio Sources
Oct. 22	Automation & Digital Storage
Nov. 19	Signal Monitoring, Remote Control & Test
Dec. 17	Antennas, STL & Transmission Support
Jan. 14, 2004	Protection, Power Conditioning and Backup
Feb. 11, 2004	Portable Audio & Newsgathering
March 10, 2004	Digital Audio Production
April 7, 2004	Mics, Speakers & Amps

USER REPORT

WDFH Prefers NCC's Prefab Rooms

Small Station Foregoes Stick-Built Construction In Favor of Something Classier

by Marc Sophos
Station Manger
WDFH(FM)

OSSINING, N.Y. In the field of studio design and construction, the name Northeastern Communications Concepts evokes images of elaborate, big-budget showcase facilities. WQXR(FM), WNYC(FM) and XM Satellite Radio are three that come immediately to mind.

As a radio engineer (among other things) living and working in the New York City area, I had seen pictures and read articles years ago about the groundbreaking WQXR and WNYC studios, and had toured both stations.

Aside from working for other broadcasters in the area, my dream had always been to establish a licensed radio station in the underserved northern suburbs of New York. The effort to create this station took more than 20 years; but WDFH, a noncommercial radio station run by community volunteers and serving the lower Hudson Valley area of Westchester and Rockland counties, signed on in 1995.

In recent years WDFH formed an alliance with Mercy College, a private nonsectarian college based in Dobbs Ferry, N.Y. Under this alliance, WDFH maintains its identity as an independent community station that now will be based on Mercy's main campus.

We provide both credit-bearing and noncredit work experience opportunities to students and others in the college community, who will be working alongside our community volunteers. This enhances the strength of the Mercy media program and will help raise the profile and visibility of the college as a whole.

Mercy provided about 900 square feet of space for WDFH's studios. This gave us an opportunity to plan and build a larger and more elaborate facility. Our original studio consisted of two tiny rooms in a decrepit, office building.

When the project began, Mercy hired an architect/general contractor to handle the renovation. We were working on the design for the facility's heating, ventilation and air conditioning system when the contractor hit a snag and wasn't sure where to turn for a solution. It was at this point that I contacted NCC, knowing the firm would have the answers we needed.

After a detailed initial conversation about the plans for our facility, NCC's Arty Ware provided detailed cost estimates, not only for helping us to solve our HVAC issue, but also for building the studios with pre-engineered rooms — a combination that had proved so successful at WQXR, XM Radio and elsewhere.

I was skeptical at first. The showcase facilities of WQXR and XM Radio had led me to assume that pre-engineered construction was for major-market broadcasters who could make a large financial investment in studio construction; it wasn't affordable for a small noncommercial Class A FM station in the suburbs.

Until I spoke with NCC, we were planning on using stud-and-drywall, or stick-built, construction with standard double-wall soundproofing techniques. I didn't think that pre-engineered construction would prove to be a cost-effective alternative. I was wrong.

Although the cost estimate for the integrated modular systems, designed by NCC and manufactured and installed by Acoustic Systems, was somewhat higher than the estimate for stickbuilding the facility, it was not prohibitive. Mercy College, anxious to view the expected superior results, made a commitment to do things right.

Once the contracts were signed, Arty and his colleague at NCC, Philip Altenburg, came to the Dobbs Ferry site and took measurements of the space, noting the presence of support beams and other structural elements. They took my initial designs and incorporated the new information, producing detailed computer-generated plans that incorporated every facet of the new facility, including HVAC silencers.

After reviewing the plans and making minor revisions, we forwarded the plans to Acoustic Systems to facilitate the manufacturing process. The studios soon were placed on a truck bound for Dobbs Ferry. The Acoustic Systems installation crew finished the job in less than a week, half the time that had been estimated.

The result of this process is a facility of which any broadcaster would be proud. There are three studios plus a newsroom with full production capability.

The old image of prefabricated rooms bears no relation to what we now have; the studios are attractive and sound great.

The double-pane windows and double magnetic sealed doors contribute to the isolation from room to room. The modular walls are thinner than would have been required with standard stick-built construction, resulting in more usable space.

The interior and exterior walls are covered with fabric-wrapped fiberglass panels provided and installed by Scott Randolph at Acoustical and Tackable Surfaces. These panels control acoustics inside the studios and provide an attractive, unified look to the facility. The old image of prefabricated rooms — like walk-in refrigerators from the 1930s — bears no relation to what we now have; the studios are attractive and sound great.

The equipment installation is in progress in the new studios. We are using a variety of old and new technologies, ranging from turntables and reel-to-reel machines to computer-based digital editing facilities. Coincidentally, our most recent and notable donation was from WQXR, the station whose facility first brought NCC to my attention. As of this writing, we expect to start broadcasting from the new facility this month.

As we approach this new beginning for WDFH, I reflect on the process that brought us to this point. Arty and Philip at NCC were times friendly, knowledgeable and professional. It has been a pleasure working with NCC, Acoustic Systems and ATS.

Mercy College is to be commended for its vision and commitment to providing a first-rate home for WDFH.

For more information, including pricing, contact NCC at (212) 972-1320 or visit www.nccnewyork.com.

How to Submit To Buyer's Guide

Can you provide a User Report on a product or service? Radio World is an important forum for our industry. Your colleagues are interested in your opinions and experiences. In addition to the satisfaction you'll feel in taking part in this forum, you'll benefit professionally from the exposure that your articles provide.

Here are a few tips for writing User Reports. Full guidelines and our editorial calendar are available upon request; write to the e-mail address below.

- Articles should be 600-800 words.
- Although headlines frequently are reworked for space, please give your article a title.
- At the top of the first page, put your name as you want it to appear in the byline, along with your job title and contact information. Include a few sentences about yourself.
- Photos of the product and your staff are encouraged. Graphics can be submitted via e-mail or by regular mail and should be sent so they reach us by the deadline.
- E-mail articles, photos and other material to Kelly Brooks at *kbrooks@imaspub.com* or write to *Buyer's Guide* Editor, Radio World, P.O. Box 1214, 5827 Columbia Pike, Third Floor, Falls Church, VA 22041.

USER REPORT

Entercom Showcases Studio Tech West

by Rick Rapalee
Chief Engineer
Entercom Broadcasting

SACRAMENTO, Calif. When it came time for Entercom Broadcasting to do a studio furniture build-out of four of our stations — KSSJ (FM), KWOD(FM), KSEG(FM) and KCTC(FM) — at our Sacramento facility, we were wondering whom we should use for the job. We wanted to build showcase studios; one cannot simply look in the phone book for a furniture company that understands the needs of a broadcast facility.

After speaking with engineers in the area, we were made aware that Philadelphia-based Studio Technology recently had opened a West Coast production facility in Reno, Nev. The firm had a reputation for quality studio furniture, so I called on the aptly named Studio Technology West.

Entercom was looking for an ergonomic custom furniture design for its showcase studios as well as solid-surface countertops. We were pressed for time and needed at least one of the studios as soon as possible.

Studio Technology West provided Entercom with an ergonomic furniture design and solid-surface countertops.

Thomas Adams, general manager of Studio Technology West, worked with us to determine the design and specs of the four studios. He visited our facility in Sacramento to meet with Chief Engineer Mick Rush and me.

Days later, Adams had drawn the four studio areas using Autocad and presented preliminary designs for our approval. Throughout the design process, the company was receptive to our needs and integrated our ideas into a functional studio layout that was aesthetically pleasing and cost-effective. The knowledge and experience of the design team allowed us to concentrate on the more technical aspects of the construction process. We knew we made the right choice.

Studio Technology West was able to meet multiple deadlines within the construction period, despite a timeline that changed from day to day. More important, the company's ability to meet these challenges in a professional and efficient manner speaks volumes about their organization.

I thoroughly enjoyed working with Adams and his staff at Studio Technology West and look forward to continuing our business relationship in the future.

For more information, including pricing, contact Studio Technology West at (775) 351-2042 or visit www.studiotechnology.com.

USER REPORT

KKLA/KRLA Go Modern With Mager Systems

by Mark Pallock
Director of Engineering
KKLA(FM)

GLENDALE, Calif. With KKLA(FM) and KRLA(AM) heading in the direction of more live talk, we wanted to rebuild our current talk studio. Instead of sticking with traditional construction, we decided to improve upon the studio's stylistic features. The finished product speaks for itself.

The tabletop has been compared to an amoeba, with its sinuous lines and three-dimensional center pod. Ancillary equipment such as our Instant Replay and telephone switch consoles are hidden by this center pod, as is messy wiring.

The pod is made of Avonite instead of Formica, which gives an unusual finish that requires only Windex to clean. Equipment mounted on the tabletop includes an audio console by Nicom USA, AKG 647 condenser microphones and a Shure Intellimix.

The design is innovative and keeps unsightly wiring concealed.

Arizona-based Mager Systems was called upon for its unique solid-surface furniture technology. The company offers innovative designs that were more appealing than the typical horseshoe configuration of other studios.

After selecting the design, Mager Systems prefabricated the furniture at its Phoenix factory, then transported it to our facility in Glendale. The studio had been gutted, so the company president, Mager Kizziah, and his team were able to begin customizing the furniture immediately.

The combination of Mager's studio furniture and the Glendale cityscape background have made ours one of the most individual studios in Los Angeles. The new furnishings are enjoyed by such L.A. personalities as Frank Pastore and Larry Marino, Dennis Prager and Mark Taylor.

For more information, including pricing, contact the company at (623) 780-0045 or visit www.magersystems.com.

WHO'S BUYING WHAT

"Who's Buying What" is printed as a service to our readers who are interested in how their peers choose equipment and services. Information is provided by suppliers.

Belar Electronics delivered 80 FMM-2/FMS-2 FM stereo sets and 37 AM monitors, including 36 of the new AMM-2 AM Wizards, to Harris Corp. The monitors were destined for **Romania's** state broadcast organization. ...

Aphex said **ESPN** purchased nine of its Model 1788 Remote Controlled Mic Preamps for ESPN Radio. ...

Megahertz Broadcast Systems completed a contract for a radio production vehicle for BBC Scotland.

Cox Radio chose **Harris** transmission equipment to take five Atlanta-area stations digital. Cox will use Harris Z HD and Z CD transmitters as well as Dexstar digital exciters for HD Radio at its WSB Radio Group and to upgrade analog signals.

Jefferson-Pilot Communications bought eight Harris consoles for stations in Miami, San Diego, Atlanta and Denver. It chose the Legacy and BMXdigital on-air console models. Two of the stations ordered cabinetry. ...

Bonneville International took delivery of two **Broadcast Electronics** HD Radio FM transmitters. WTMX(FM) and WDRV(FM) in Chicago received FMi-301 and FMi-402 transmitting systems. The stations will operate them in high-level combined mode at the Sears and AON buildings. Bonneville had already completed installation of an FMi-301 transmitter system in a high-level combined mode at KKDV(FM), San Francisco, which joined Bonneville's KDFC(FM) and KOIT(FM) there in digital broadcasting. ...

Audioarts Engineering delivered orders to **Cumulus Media** and **Whitney Radio** for "numerous" DX-16s, its newest digital on-air audio board. Audioarts is a subsidiary of Wheatstone Corp. Cumulus Media took delivery of several DX-16 consoles for a buildout in the Appleton-Oshkosh market of Wisconsin. Whitney Radio ordered DX-16s for WVOX, its regional community station in New Rochelle, N.Y. ...

Megahertz Broadcast Systems completed a contract for a digital radio production vehicle for **BBC Scotland**. Facilities include **Soundtracs** mixer and 24-track **Mackie** hard-disk recorders.

TECH UPDATES

Omnirax Debuts Broadcast Furniture

Omnirax is expanding its line of pro audio studio furniture to include models aimed at the broadcasting industry. The company modifies existing furniture models or creates custom furniture to the client's specifications. Color and finish are selected by the customer.

The Force 40 MF has a mahogany Formica top surface.

The Omnirax Force 40 MF is finished in a black melamine laminate, with a high-pressure mahogany Formica top surface. It has a full-length bridge for multiple monitors with 16 rack spaces below. Another 24 rack spaces are available in two bays below the desk surface. An adjustable keyboard and mouse shelf are included.

For information, including pricing, contact Omnirax in Sausalito, Calif., at (800) 332-3393 or visit www.omnirax.com.

Auralex 'Xpands' ISO Series

Auralex Acoustics has added Aural-Xpanders to its ISO Series, which includes GRAMMA, MoPads and HoverDeck products. The Aural-Xpander kit is a sonic "sculpting tool" that consists of high-density acoustic foam components in distinct shapes. The components let the engineer control off-axis colorations, structure-borne resonance and external noise bleed. Xpanders provide the capability to filter undesirable external overtones that might push the engineer to over-process on the back end during the mixing stage.

"As a recording engineer, I have always searched for that extra level of improved tonal separation when using multiple microphones — for instance, during drum recording or singer/songwriter recording where I have two large diaphragm mics up at the same time," stated Product Manager Rusty Sulzmann.

For more information, including pricing, contact the company in Indianapolis at (800) 95-WEDGE or visit www.auralex.com.

Acoustic Systems

▶ Continued from page 32

Orchestra. We used a small amount of processing to sweeten the sound because the room was designed to be attractive and functional, a good description of the whole facility. We won't win any awards for design innovation, but that was not one of our goals (although if there were awards for *appropriate* design, I think we'd be a contender).

A diesel locomotive passes several times a week, blowing its horn for the nearby crossing, and nobody knows.

There has been a tendency lately for public radio stations building new facilities to hire big-name (and big-ticket) designers. The results often are strikingly beautiful. I don't mean to suggest that these stations have made a mistake. They have chosen a course which no doubt reflects their ambitions and the depth of their pocketbooks. But for WDAV, the combination of Acoustic Systems and Northeast Communications Concepts was the perfect match for our own philosophy of striving for the highest possible quality while being the best possible stewards of the resources entrusted to us by the community.

We would do it again in a heartbeat.

For more information from Acoustic Systems, contact the company in Texas at (512) 444-1961 or visit www.acousticsystems.com.

TECH UPDATES

Peerless Offers Vision-Point

Peerless Industries Inc. offers a mounting option for LCD flat panels with its new Vision-Point Pivot Wall Mounts. The clear aluminum finish makes them adaptable for professional settings.

The Pivot Wall Mounts are suitable for obtaining side-to-side rotation and tilt with small- to medium-size LCD screens. The LPS model features a 3-inch arm and is suitable for smaller screens or when less side-to-side rotation is required. The longer LPL model is 5-7/8 inches in length and offers a broader range of side-to-side rotation.

Both mounts feature a ball joint that adjusts the viewing angle manually. The mounts fold flat against the wall to hide behind the screen in a closed position. Both models include the bracket, screen mounting plates and theft-resistant security screws.

For more information, including pricing, contact Peerless Industries at (800) 865-2112 *or visit* www.peerlessindustries.com.

Gepco Touts X-Band for Critical Applications

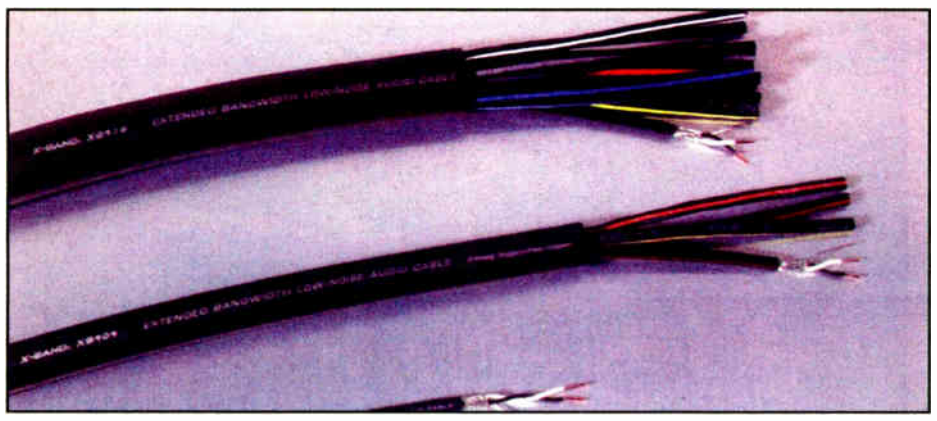
Gepco International's X-Band analog audio cable is available in single-, 4-, 8-, 12-, and 16-pair versions. The company promotes it as a flexible, sonically transparent, low-noise and durable balanced audio cable for use in critical studio applications or live sound venues.

The X-Band series of analog audio cables has an improved design for increased purity and noise rejection. Gepco says the construction of the X-Band series makes it extremely flexible and flaccid while maintaining ease of termination, for it will not retain kinks and bends when flexed.

Key features of the X-Band Series include finely stranded oxygen-free conductors and reduced high-frequency absorption. The special foam dielectric allows for easy cutting and stripping with minimal wickback when soldering.

Despite repeated flexing and compromise, Gepco says, the X-Band's durable shield is prevented from opening by a 95-percent Braid Shield; it features excellent RF and EMI rejection and consistent and tight twisting of balanced pairs. In addition to quick ground termination with drain wire and easy-to-trim braid, the X-band series has a new G-Flex jacket, with pairs on multi-pair that are color-stripped and printed for ID and attractive appearance when visible after installation.

For pricing information, contact the Illinois-based company at (847) 795-8770 or by e-mail to gepco@gepco.com.



The X-Band series features oxygen-free conductors and a new G-Flex jacket.

Middle Atlantic Edit Center Links Form With Function

The Middle Atlantic Products Edit Center line is modular studio furniture that the company says is in stock and available immediately. The line includes a user-configurable series of 60- and 84-inch desk designs with an array of features.

Each Edit Center desk system ships in one of two styles of attached overbridge: two integral under-bridge rackbays or an under-bridge open span. All have rotating speaker monitor platforms. Edit Center includes grommeted desktop cable pass-throughs and a cable manager that accommodates Middle Atlantic power strips.

Standard Edit Center system features on side-bay racks include gasketed Plexiglas front doors for noise control and a quiet fan and filter on gasketed rear doors for cooling.

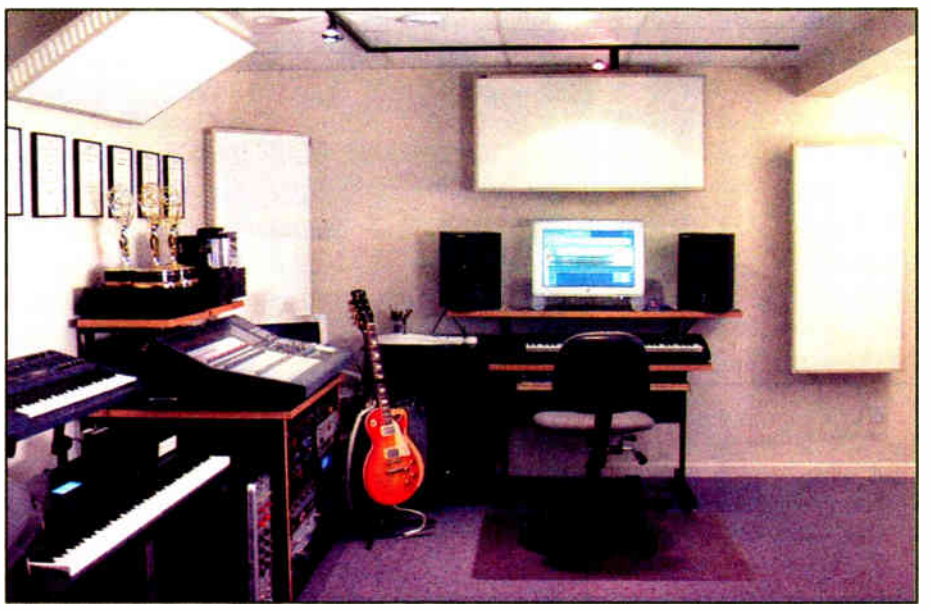
For optimum ergonomics, the Edit Center System can be arranged to suit any user's preference by rotating the Side Bay Racks to the desired angle. System components use cherry and graphite laminate finish.

For more information, including pricing, contact the company in New Jersey at (800) 266-7225 or visit www.middleatlantic.com.

The Edit Center System from Middle Atlantic Products can be adjusted to any user's ergonomic preference.

MiniTraps: Bring the Noise

RealTraps MiniTraps are fiberglass-based acoustic panels with a membrane for enhanced low-frequency performance. In addition to serving as bass traps, they absorb midrange and high frequencies. This makes them suitable for recording studios, home theaters, churches, auditoriums and other installations where the user desires economical acoustic treatment. They're small and lightweight for ease of handling and economy of shipping.



MiniTraps enhance both low-frequency performance and a studio's design.

MiniTraps are 2 x 4 feet, 3-1/4 inches thick and weigh 16 pounds. They mount with one screw or hook, like a picture, without glue or permanent wall damage. Yet despite their size, the company touts MiniTraps for their exceptional specs, especially at low frequencies. They can be mounted vertically or horizontally; they can be or high on a wall out of the way. MiniTraps are made with rigid fiberglass and metal instead of foam, making them non-flammable and suitable for installation in public venues.

The company says the acoustics are designed to excel at bass frequencies, and intentionally have lower absorption at midrange and high frequencies, so enough can be used for adequate bass trapping without making a room sound too dead.

MiniTraps cost $159.99 each and are sold direct by the manufacturer.

For further information, including pricing, contact RealTraps LLC in Connecticut at (866) 732-5872 or visit www.realtraps.com.

O.C. White Riser Reaches New Heights

A new microphone riser combination from OC White, model 61900, is designed to improve aesthetics by concealing the mic wire. It is easy to install and remove.

Attaching a microphone cord to the outside of the riser is unnecessary. The base provides an invisible vertical wire channel through the riser, which is prewired to an XLR female embedded at the top. A three-foot pigtail extends from the base for the user to wire as needed.

The riser is shown in use with a Klotz control surface.

The riser can reach a height of 15 inches, allowing for installation behind low-profile VGAs and near-field speakers. The factory-installed mic wire exits straight down through the countertop or through a side channel at the bottom.

The arm provides a channel for an optional mic cable which may be pre-wired with connectors and installed or removed at any time. The process requires no threading, removal or reinstallation of connectors.

The riser-installed connector is wired 1 shield, 2 white and 3 blue or red. A blunt-cut pigtail of mic wire protrudes nearly three feet out of the bottom of the riser for the user to connect as preferred.

The wire channel uses a unique wire cover, making the arm a four-sided unit that covers and secures the cable. This speeds installation and improves appearance. Strong, elastic music wire springs are used. Where ordinary steel springs "crackle" and squeak when removed, O.C. White arms are touted as silent.

The support system is available in several configurations and mounting options, including a multiple arm mount that accommodates roundtable discussions. The unit is available in black-and-gold finish for upscale studio designs.

For more information, including pricing, contact the Indiana-based company at (765) 935-3893 or visit www.ocwhite.com.

SBE Honors Garlinger, Baun

Douglas Garlinger is SBE's Broadcast Engineer of the Year. He will be honored during the society's national meeting on Oct. 15 in Madison, Wis.

Terrence Baun was named Educator of the Year.

Douglas Garlinger

Garlinger, CPBE, CBNT, has been employed by LeSea Broadcasting Corp. as director of engineering since 1980. LeSea operates the World Harvest Television Network, eight full-power TV stations, four LPTVs, two FM stations and three international shortwave stations. It also has two satellite uplink networks overseas.

Garlinger wrote SBE's "Introduction to DTV-RF" and co-wrote its "Television Operator's Certification Handbook." He was SBE Educator of the Year in 1994.

Baun, CPBE, CBNT, is president of Criterion Broadcast Services, which provides consulting and contracting services. The society pointed to his "long history of involvement" including educational activities.

"He was instrumental in the formation of the Certified Broadcast Networking Technologist certification level by the society," it stated. "He later developed a tutorial which he has presented more than 30 times across the United States, helping broadcast engineers better understand computer networks as used in broadcast stations."

Baun is a former SBE president and was Broadcast Engineer of the Year in 1991. John H. Battison, P.E., CPBE, won for Best Technical Article, Book or Program.

Terrence Baun

Among local SBE chapters that were honored are the following:

Best Regional Convention or Conference: Chapter 22, Central New York, 30th Annual SBE Chapter 22 Convention; Conference Coordinator: Thomas C. McNicholl, CBTE

Best Chapter Newsletter (Class B): Chapter 24, Madison, Wis.; Editor: Michael J. Norton, CSTE, CBNT

Most Interactive Chapter: Chapter 73, HAMnet "Chapter of the Air"; Chapter Chairman: Hal H. Hostetler, CPBE

Best Chapter Frequency Coordination Effort (Class B): Chapter 9, Phoenix; Frequency Coordinators: Arizona Frequency Coordination Committee, chaired by Karl Voss

Best Chapter Web site: Chapter 53, South Florida; Webmaster: Douglas L. Barkley, CBTE, CBNT

Greatest Growth in New Members (Class A): Chapter 133, Buffalo, N.Y.; Chapter Chairman: John L. Merrill

Greatest Growth in New Members (Class B): Chapter 56, Tulsa, Okla.; Chapter Chairman: George Chambers

Products & Services SHOWCASE

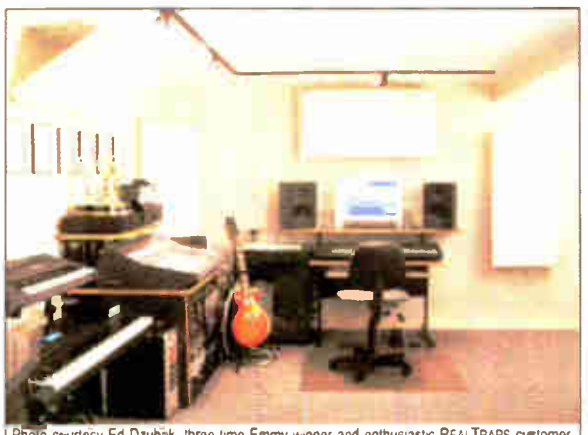


Photo courtesy Ed Dzubak, three-time Emmy winner and enthusiastic REALTRAPS customer

MINITRAPS - AFFORDABLE ACOUSTIC TREATMENT FOR PRODUCTION STUDIOS

Nobody knows acoustic treatment better than REALTRAPS. With MiniTraps we raise the bar even higher with outstanding broadband performance at a very attractive price. They're lightweight, portable, easy to install, and absorb *three times more* than corner foam at 100 Hz. Pure genius. Only from REALTRAPS.®

For details and full specifications please call or visit our web site www.realtraps.com

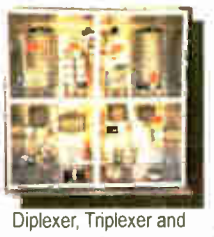
REALTRAPS, LLC•34 Cedar Vale Drive, New Milford, CT 06776
Toll-free: 866-REALTRAPS (866-732-5872)•sales@realtraps.com

AM Antenna Solutions

LBA Tunipole™
Folded Unipole Systems

RF Components

Vacuum Capacitors



Diplexer, Triplexer and
Phasor Systems

COMET Sold Here!

LBA Technology, Inc. is your proven supplier of innovative, digital-ready AM antenna systems. Our products include tuning units, phasing systems, multiplexers, AM/wireless isolation systems and components for every power level. We help hundreds of broadcasters in the USA and worldwide to --

Reach further – sound better!

LBA Technology, Inc.
3400 Tupper Drive, Greenville, NC 27834
800-522-4464 / 252-757-0279 / Fax 252-752-9155 / Email Lbatech@Lbagroup.com / www.Lbagroup.com
LBA Since 1963

MOORETRONIX
BROADCAST & INDUSTRIAL ELECTRONICS

PRE-OWNED BROADCAST EQUIPMENT

Buy with confidence!

All equipment is sold with documentation and a 30-day Limited Warranty.

We also repair and refurbish PR&E consoles, modules and accessories. We speak BMX-I, II, III, AMX, ABX, Newsmixer, Stereomixer & Radiomixer.

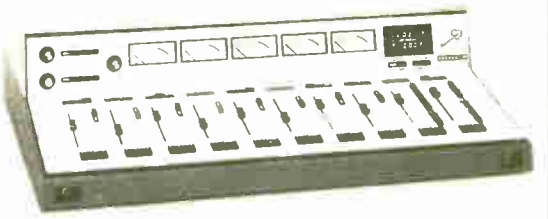
Visit our web site for available equipment and news updates.

www.mooretronix.com

800-300-0733

Looking for Reliability, and Affordability?

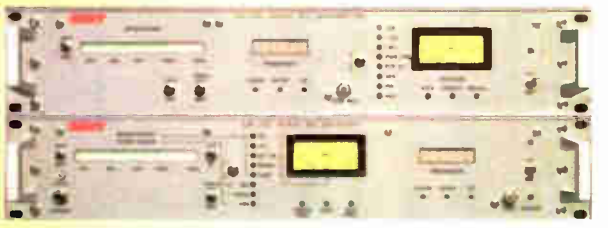
Have you forgotten about the
"CLASSIC"
PACEMAKER 1032?



AUTOGRAM
800-327-6901
www.autogramcorp.com

BEXT

- ☑ Frequency Agile
- ☑ Outstanding Audio
- ☑ 2 year Warranty



10W STL SYSTEM $3,850

Dedicated to Quality Equipment

Customer Talk
"Working with Bext is a Broadcasters dream"
"Bext is top-drawer in their assistance & support"

1 888 239 8462
Outside the US call 619 239 8462

www.bext.com

BROADCAST Equipment Exchange

"Broadcast Equipment Exchange" accepts no responsibility for the condition of the equipment listed or for the specifics of transactions made between buyers and sellers.

ACOUSTICS

Want to Sell

AMPLIFIERS

Want to Sell

AudioClassics.com Buys-Sells-Trades-Repairs Vintage and High-End Audio Equipment. 800-321-2834 or steve@audioclassics.com.

Ramko LA-5S line amplifier. 10 mono or 5 stereo. $50 +shpg. John Wilsbach, WMSS, 214 Race St, Middletown PA 17057. 717-948-9136.

ANTENNAS/ TOWERS/CABLES

Want to Sell

ERI FMH-10 rototiller, 10 bay circularly polarized high power antenna, 1981 model, on 104.9 mHz w/connectors, $1500. Bruce Campbell, Dove Media, 598 Westwood Dr, #201, Abilene TX 79603. 325-677-3900.

AUTOMATION EQUIPMENT

Want to Sell

AXS System from Scott Studios. Complete On-Air System with CD interface and switcher, comes with (5) Pioneer 100-disc jukeboxes, $2000. Dewayne Forbis, WKNK, 1130 South Dixie St, Horse Cave KY 42749. 270-786-1000.

Smartcaster Jock in the Box CD automation system and live assist. Includes 8 Pioneer 18 disc CD changers, computer, cables, and new rack. Great Condition, $3500 +shpg. John Wilsbach, WMSS, 214 Race St, Middletown PA 17057. 717-948-9136.

CART MACHINES

Want to Sell

Tapemaster 700-RP & X701-RP, 3 older model Tapecasters, very good condition, $500 for all 3/BO +shpg. Gary Marmitt, WSFN, 7515 Blythe Island Hwy, Brunswick GA 31523. 912-264-6251.

COMPLETE FACILITIES

CONSOLES

Want to Sell

Audio Arts R-60. There are about eight slides on it plus two for mics with room for four more slides. Used in light recording. $2750.00 plus shipping and handling. If you would like a picture e-mail Michael Raley at Mraley@bbnradio.org or call (704) 523-5555.

Autogram IC-10, 10 channel stereo, rotary pots, good condition, $950/BO. Tom Toenjes, KJTY, 6120 Riley Creek, St Marys KS 66536. 785-640-6047.

Gates Stereo 80, 8 channel, good condition, $750/BO +shpg. Gary Marmitt, WSFN, 7515 Blythe Island Hwy, Brunswick GA 31523. 912-264-6251.

Harris Medalist, 10 channel stereo, slider pots, $950/BO. Tom Toenjes, KJTY, 6120 Riley Creek, St Marys KS 66536. 785-640-6047.

LPB Signature 2, 10 channel, good condition, $750/BO +shpg. Gary Marmitt, WSFN, 7515 Blythe Island Hwy, Brunswick GA 31523. 912-264-6251.

Three Audio Arts A-50 eight channel with slides. Used in light recording. Excellent shape but will sell "as is" for $900.00 each plus shipping and handling. Call Michael Raley at (704) 523-5555 for more information or e-mail Mraley@bbnradio.org for a picture.

Yamaha 03D digital mixing console, $2000. Julie Crosen, Educational Media Corp, 830 Gunnery Hill Rd, Spotsylvania VA 22553. 540-582-5371 x2.

RCA BC-7 series parts: Immediate need for several stereo 600 ohm step pots with cue. Also transformer cards, program amps, cue amps, power supplies. Noncommercial 501©(3) community station near NYC seeks donation if possible; can pay for parts if necessary if price is reasonable. Will pay shipping. Will also take complete consoles if within reasonable driving distance of NYC. Marc, WDFH-FM, 212-924-9833 or marc@wdfh.org.

DISCO-PRO SOUND EQUIP

Want to Sell

Audio Cord Cart machines. We have about 15 "E" series playbacks at $20.00 each, 12 "DL" series playbacks and two "A" series playbacks at $20.00 each. Most of them have been refurbished. We also have one "A" series P/R mono, two "E" series p/r mono, two "DL" series p/r mono and two "DL" series stereo p/r at $100.00 each. Call Michael Raley @ (704) 523-5555 or e-mail Mraley@bbnradio.org for more information. No connectors are available. Will sell "as is". Shipping and handling

ATI Audio Distribution Amplifier 2016-1. We have about 10 of these as a result of studio renovations. They cost over $1,100.00 new but will let these go for $475.00 each plus S&H. Contact Michael Raley at (704) 523-5555 for more information or e-mail Mraley@bbnradio.org for a picture.

Audio Arts 8400 Distribution Amplifier. We have about 15 of these as a result of studio renovation. They cost over $1,100.00 new but will sell "as is" for $400.00 each plus S&H. Contact Michael Raley at (704) 523-5555 or e-mail Mraley@bbnradio.org for a picture.

Broadcast Tools 8x2 Duel Switcher. Will sell "as is fo $300.00 plus plus s/h. Email Mraley@bbnradio.org for a picture or call (704) 523-5555.

Denon 650 F CD player. Will sell "as is" for $225.00 plus s/h. Email Mraley@bbnradio.org for picture or call (704) 523-5555 for more information.

Dynaflex Audio Reduction unit (2) Each unit cost around $400.00 but will sell "as is" for $200.00 each. Call Mike R at 704-523-5555 or e-mail Mraley@bbnradio.org for a picture.

Dynamax CTR100 Series Record/Playback with manual- Like new and ready to ship. Will sell "as is" for $125.00 plus S&H. Call Michael Raley at (704) 523-5555 or e-mail Mraley@bbnradio.org for a picture.

Enberg BA - 6 Announciator. Four of them in great condition with no more than eight years of use in them. Original cost was $359.00 each but we will sell them for $225.00 each "as is" plus s/h. Call Mike R at (704) 523-5555 or e-mail Mraley@bbnradio.org for more information.

Over inventoried with Otari MX 50, MX 5050 all in good shape. Will sell as is" for $50.00 each plus s/h. Call Mike Raley at (704) 523-5555 or e-mail Mraley@bbnradio.org for pictures. They work I'm just trying to get rid of them!

RCA FM Modulation Monitor model BW75A (Belar mono). Needs some repair but will sell for $200.00 plus S&H. Call Mike Raley @ (704) 523-5555 or e-mail Mraley@bbnradio.org for a picture.

RCA FM Modulation Monitor model BW85A (Belar Stereo). Probably needs repair but will sell for $200.00 plus S&H. Call Mike Raley at (704) 523-5555 or e-mail mraley@bbnradio.org for a picture.

Revox Reel to Reel Recorders. Good for parts but might be repairable. We've got seven of them and can let them go for $20.00 each plus s/h. Call Michael Raley @ (704) 523-5555 or e-mail Mraley@bbnradio for pictures.

Tascam CD 301 (Have two working units) will sell as is for $225.00 each plus s/h. E-mail Mraley@bbnradio.org for pictures or call (704) 523-5555 for more information.

Tascam Ministudio Porta One Cassette. Four mic lines for remotes This cost $600.00 new but will sell "as is" for $125.00 plus s/h. Call Mike Raley at (704) 523-5555 or e-mail mraley@bbnradio.org for a picture.

Technics SL-D2 record player can let go "as is" for $175.00 plus s/h. E-mail Mraley@bbnradio.org for a picture or call Mike at (704) 523-5555 for more information.

Ten Nidec motors for Audio-cord "E" series. 117v 6H 3.1w 0.2amp 12p and 600rpms. Will sell "as is" for $5.00 each. Working condition just somewhat noisy. Call Michael Raley (704) 523-5555 or e-mail Mraley@bbnradio.org for pictures.

TFT 713 AM Frequency and Modulation Monitor. Cost $3,400.00 new but will sell for $1500.00 plus S&H. Needs re-calibration. Call Michael Raley at (704) 523-5555 or e-mail Mraley@bbnradio.org for a picture.

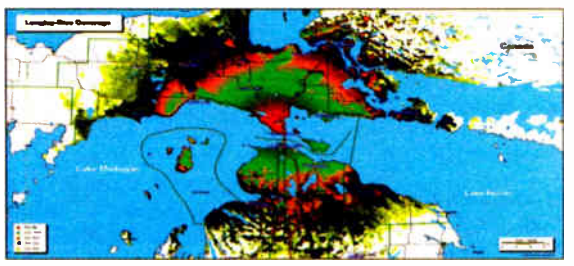
Two B.E. Record Playback cart machines Two Stereo units "as is" for $65.00 each and two mono units "as is" for $50.00 each. Call Michael Raley @ (704) 523-5555 or e-mail Mraley@bbnradio.org for pictures.

Two RTS 416 Distribution Amplifiers. Has slight problem pushing +4. Cost $1,173.00 new but will take $325.00 for each unit plus S&H. Call Michael Raley at (704) 523-5555 or e-mail Mraley@bbnradio.org for a picture.

LIMITERS/AUDIO PROCESSING

Want to Sell

Aphex Compellor 820A w/manual, $800. Ron Witt/Bob Spencer, WSTG, POB 5588, Princeton WV 24740. 304-425-2151.



Modulation Sciences CP803 FM composite clipper w/manual, $800. Ron Witt/Bob Spencer, WSTG, POB 5588. Princeton WV 24740. 304-425-2151.

Orban 8100, just removed from service, re-capped 2000, $2000. Tom Taggart, WRRR, POB 374, St Marys WV 26770. 740-541-0216 or tpt@eureka.net.

Texar Audio Prisms (2) with #5 Texar card, $800/both. Ron Witt/Bob Spencer, WSTG, POB 5588, Princeton WV 24740. 304-425-2151.

Want to Buy

Teletronix LA-2A's, UREI LA-3A's & LA-4's, Fairchild 660's & 670's, any Pultec EQ's & any other old tube compressor/limiters, call after 3PM CST, 972-271-7625.

MICROPHONES

Want to Sell

RCA Type 77-D, vintage in great shape, $1050. Gene Whittenberger, POB 396, Mexico IN 46958. 765-985-2224.

Want to Buy

RCA 77-DX's & 44-BX's, any other RCA ribbon mics, on-air lights, call after 3PM CST, 972-271-7625.

MISCELLANEOUS

Want to Sell

Analog equipment package including R-R R/P, R-R Play, DA's, automation, speakers, tone sensors, coax & misc. Call or email for list, 307-265-5414 or email: kcspfm@aol.com.

Classified Advertising Rates Effective January 1, 2003

	1x	6x	13x	26x
1-9 col inch (per inch)	$105	100	95	90
10-19 col inch (per inch)	$90	80	70	60
Distributor Directory	$130	125	120	115
Professional Card	$100	95	90	85
Station/Studio Services	$195	165	140	119
Classified Line Ad	$2/word			
Blind Box Ad	$15 additional			

Call Simone Fewell, Ext. 154, Classified Ad Manager, to reserve space in the next issue. Use your credit card to pay, we now accept VISA, MASTERCARD and American Express.

MISCELLANEOUS (WTS) Cont.

Broadcast Tools 8x2 switcher, $700. Julie Crosen, Educational Media Corp, 830 Gunnery Hill Rd, Spotsylvania VA 22553. 540-582-5371 x2.

Honeywell Medium Intensity Strobe System Model K-6 225 TW KVA.6 120 VAC. Lines include Royal electric 12/7 SOW 600v at 132' Royal Electric 12/5 SOW-A 90c and 60c with lengths or 52' and 160'. Good for parts only. Will sell total kit "as is" for $1000.00. Call Michael Raley @ (704) 523-5555 or e-mail raley@bbnradio.org

Inovonics Map II Multiband processor - $350.00 "as is" plus shipping and handling - Call Michael Raley @ (704) 523-5555 for more information or e-mail Mraley@bbnradio.org for a picture.

Proteck 20 MHZ Spec. analyzer (A-3502). Make a decent offer. Call Michael Raley@ (704) 523-5555 or e-mail Mraley@bbnradio.org.

QEI Model ARC - 27 Automatic Remote Control - $50.00 "as is" plus shipping and handling - Call Michael Raley @ (704) 523-5555 for more information or e-mail Mraley@bbnradio.org for a picture.

Several different types of operation manuals ranging from Revox, Otari, Moseley, Gentner, Comstream, A/C (for cart machines. Too many to list. E-mail me at Mraley@bbnradio.org.

TFT 886 AM EBS receiver for obsolete system, now useful as frequency agile AM receiver, excellent condition, $50/BO +shpg. Bob Rivkin, KPLM/KJJZ, 441 S Calle Encilia, #8, Palm Springs CA 92262. 760-320-4550.

Three 25 HZ TP-XT Zercom Dual Tone Detect and Notch Filter - $40.00 each "as is" plus shipping and handling - Call Michael Raley @ (704) 523-5555 for more information or e-mail Mraley@bbnradio.org for a picture.

RECORDERS
Want to Sell

DJ EQUIPMENT: System 360, Mackie board, Tascam 302 tape decks, mic, mic arm. Call 757-220-4256.

Radio World

REMOTE & MICROWAVE
Want to Sell

Superior Broadcast Products
FM STL Transmitter & Receivers 3,500 for both
Contact **Benny Springer**
Phone 800/695-7919

Moseley 1600 microprocessor remote control, w/manual, in good condition, $400/BO +shpg. Bob Rivkin, KPLM/KJJZ, 441 S Calle Encilia, #8, Palm Springs CA 92262. 760-320-4550.

WE RENT FOR LESS

Hotlines	FM Exciters
Zephyrs	STL's
Nexus	FM Pwr Amps
Audio	Test Equipment

If we don't have it, we will get it!
SCMS, INC. (800) 438-6040
"You Know We Know Radio"

Moseley 1620 microprocessor remote control, w/manual, good condition, $400/BO +shpg. Bob Rivkin, KPLM/KJJZ, 441 S Calle Encilia, #8, Palm Springs CA 92262. 760-320-4550.

Moseley MRC-1600, 16 channel, good condition, $350. Tom Toenjes, KJTY, 6120 Riley Creek, St Marys KS 66536. 785-640-6047.

Moseley Taskmaster 20 remote access program version 2.3.9 w/manual, $100/BO +shpg. Bob Rivkin, KPLM/KJJZ, 441 S Calle Encilia, #8, Palm Springs CA 92262. 760-320-4550.

SATELLITE EQUIPMENT
Want to Sell

Broadcast Tools dual satellite control 32/64, $400. Julie Crosen, Educational Media Corp, 830 Gunnery Hill Rd, Spotsylvania VA 22553. 540-582-5371 x2.

Comtech 5.5m dish and mount. Originally purchased back in 1983 but in good condition will sell "as is". Buyer responsible for removal and shipment. $4800.00. Call Michael Raley @ (704) 523-5555 or e-mail Mraley@bbnradio.org for pictures.

Three Zephrus Analog Sat receivers $20.00 each "as is" and one digital Zephrus sat receiver for $100.00 "as is" plus shipping and handling - Call Michael Raley @ (704) 523-5555 for more information or e-mail Mraley@bbnradio.org for a picture.

Wegener Unity 4000 satellite receiver, $2800. Julie Crosen, Educational Media Corp, 830 Gunnery Hill Rd, Spotsylvania VA 22553. 540-582-5371 x2.

Wegner DN 86 digital audio receiver 3944.1 MHZ - $200.00 "as is" plus shipping and handling - Call Michael Raley @ (704) 523-5555 for more information or e-mail Mraley@bbnradio.org for a picture.

SERVICES

Got Services?
Spotlight them here!
For more details, call Simone Fewell at 703-998-7600, ext. 154 or e-mail: sfewell@imaspub.com

Buying used equipment? Selling used equipment?
YOU'RE IN THE RIGHT PLACE!
Radio World
Broadcast Equipment Exchange
For more information, call Simone Fewell at 703-998-7600, ext. 154

STATIONS
Want to Sell

AW Online

Offered for Sale!

SW station
WSHB
Cypress Creek, SC
USA

(2) 500 KW transmitters
(12) Curtain Antennas
(3) 750 Kw Gen Sets
380 acres

For Prospectus or Information, contact Station Manager, Ed Evans
803-625-5551
evansc@wshb.com

DISTRIBUTOR DIRECTORY

The following distributors serving the broadcast industry would be glad to help you with any of your requirements.

CORNELL-DUBILIER MICA CAPACITORS
FROM STOCK
JENNINGS VACUUM CAPACITORS
FROM STOCK
JENNINGS VACUUM RELAYS
SURCOM ASSOCIATES
2215 Faraday Ave., Suite A
Carlsbad, California 92008
(760) 438-4420 Fax: (760) 438-4759
e-mail: link@surcom.com web: www.surcom.com

...country, top 40, news, urban, talk, jazz, the classics, mixed bag...
RADIO! The beat goes on!
CROUSE-KIMZEY OF ANNAPOLIS
tops in broadcast equipment
1-800-955-6800
ask for Kathleen
kkannapolis@att.net

Are You a Distributor?
ADVERTISE HERE!
Space is available.
Call 703-998-7600, ext. 154.

CONSULTANTS

EVANS ASSOCIATES — Consulting Communications Engineers
FCC Applications • Design • Field Engineering • Tower Detuning
Upgrade & Relocation Studies • AM Directional Array Tuning & Proof
EXPERTS IN
TV • DTV Transition • FM • Directional Antennas • RF Exposure
210 S. Main St., Thiensville, WI 53092. (262) 242-6000. FAX (262) 242-6045
http://www.evansassoc.com *Member AFCCE*

Consulting Communications Engineers
EMC Test Lab
• FCC Applications and Field Engineering
• Frequency Searches and Coordination
• AM-FM-CATV-ITFS-LPTV
• EMC Test Lab-FCC and European (IEC)
OWL ENGINEERING, INC.
E-mail: info@owleng.com **800-797-1338** Fax (651) 784-7541
5844 Hamline Ave. N., Shoreview, MN 55126 (651) 784-7445 *Member AFCCE*

FASTER... MORE ACCURATE RADIO COVERAGE
• Real Time 3-D Displays
• Interference calculations
• Cost effective mapping
• Fully integrated databases
• Used by the FCC
• Latest standards built-in
RADIO SOFT
Visit us on the the web at www.radiosoft.com
109 West Knapp Ave. • Edgewater • FL • (386) 426-2521

System One Communications
Broadcast Constructors & Consultants
Houston, Texas
888-625-5649
➢ AM-FM Site Construction Specialists
➢ Complete Tower Service
➢ Antenna & Transmission Line Diagnostics

GRAHAM BROCK, INC.
BROADCAST TECHNICAL CONSULTANTS
Full Service From Allocation to Operation AM/FM/TV/ALX Services, Field Work, Antenna and Facilities Design
Over 35 years engineering and consulting experience
912-638-8028
202-393-5133
www.grahambrock.com

M Celenza Communications Consultants
FM-AM-TV-LPTV-LPFM
Applications, Amendments, Upgrades, Frequency Searches, Directional Antennas
Field Work (Station Inspections)
631-928-0077
Fax: 631-928-1905
41 Kathleen Crescent, Coram N.Y. 11727

MULLANEY ENGINEERING, INC.
Consulting Engineers
•Design & Optimization of AM Directional Arrays
•Analysis for New Allocation, Site Relocation, And Upgrades
AM-FM TV LPTV
Wireless Cable
(MDS/MMDS/ITFS/OFS)
•Environmental Radiation Analysis
•Field Work
•Expert Testimony
9049 Shady Grove Court
Gaithersburg, MD 20877
Phone: (301) 921-0115
Fax: (301) 590-9757
email: mullengr@aol.com

Communications Technologies, Inc.
Broadcast Engineering Consultants
AM FM TV LPTV
Cellular/PCS Site Analysis
P.O. Box 1130, Marlton, NJ 08053
Phone: (856) 985-0077
Fax: (856) 985-8124
Internet: commtechrf.com
Clarence M. Beverage
Laura M. Mizrahi

Doug Vernier
Telecommunication Consultants
Broadcast Engineering Consulting
AM/FM/TV/LPTV/DTV
Custom mapping service
Frequency searches
Propagation prediction
FCC application preparation
V-Soft Communications, Inc.
Software for your PC
(800) 743-3684
www.v-soft.com

Promote Your Business!
Space is available.
Call 703-998-7600, ext. 154.

dataworld®
Market Analysis
Engineering Software
Ethnic/Demographic Data
Custom Full-color Mapping
Sales Marketing Packages
www.dataworld.com 800-368-5754
info@dataworld.com fax: 301-656-5341

Structural Analysis
ERI
Electronics Research, Inc.
7777 Gardner Road
Chandler, IN 47610
(812) 925-6000
www.ERIinc.com
REGISTERED PROFESSIONAL ENGINEERS — STRUCTURAL ANALYSIS — TOWER REINFORCING — ERI Incorporated 1943

Want to Buy

AM, FM, translators, located in RI, MA, or CT area. Non-commercial or commercial, no FCC lic station to small. Will consider partnership. Call after 6PM EST. Michael Cardillo, 401-942-8341 or email: mondomikeradio@aol.com.

Looking for AM's, FM's, non-commercials, translators, or CP's in western US. Please email: Dougs@ihradio.org.

Looking for AMs, FMs. commercials, non-commercial, translators or CP's. Will consider partnership. Areas: RI, CT, MA. Email to: mondomikeradio@aol.com.

TRANSMITTERS

Want to Sell

(5) Five KW FM's. Continental Communications., 314-664-4497, ContComm@sbcglobal.net.

Harris BC-5-HA, 5 KW AM (2). Continental Comm., 314-664-4497, ContComm@sbcglobal.net.

Harris MW-5-B, 5 KW AM (5). Continental Comm., 314-664-4497, ContComm@sbcglobal.net.

Harris SX-1A, 1 KW AM. Continental Comm., 314-664-4497, ContComm@sbcglobal.net.

McMartin BF-5K, 5kW FM. Factory rebuilt in perfect, like new condition, includes new tubes, tested & tuned on your frequency. Guaranteed, fully adjustable from 0 to 5.5 kW. Goodrich Enterprises Inc, 402-493-1886.

SINGER (remake of CCA) model FM 20,000 E tuned to 89.5FM. Currently in "fairly good" operating condition, with a TPO of 17.1 KW. This can be retuned on the field and parts are available through Goodrich Enterprises (402)-493-1886. Call Michael Raley @ (704) 523-5555 or e-mail Mraley@bbnradio.org for pictures. $7,500.00 and buyer arranges shipping.

AnaCom ANASAT - C Series C-Band Transceiver 10 watt Just reconditioned $6,000.00. For Technical Information e-mail Rmuffley@bbnradio.org for purchase call Michael Raley at 704) 523-5555 or e-mail at Mraley@bbnradio.org for pictures.

Continental 816R2A 20kw FM transmitter w/802A exciter on 104.9 mHz, $17,000. Bruce Campbell, Dove Media, 598 Westwood Dr, #201, Abilene TX 79603. 325-677-3900.

Harris BC-5HB, 5 kw AM, good condition, $4500. Tom Toenjes, KJTY, 6120 Riley Creek, St Marys KS 66536. 785-640-6047.

Moseley PCL-606/C STL xmitter - This was pulled from service because of bad amplifier and it might be repairable or good for parts. Will sell "as is" for $250.00. Call Michael Raley @ (704) 523-5555 or e-mail Mraley@bbnradio.org for a picture.

QEI FMQ 10000 transmiitter tuned to 100.1 in good working condition and can be retuned on the field. This was installed in March of 1994 but will be replaced by another xmitter sometime at the end of the summer of 2003. This xmitter cost 30,000.00 new but will let go for $18,000.00. Call Mike Raley @ (704) 523-5555 or e-mail in "fairly good" operating condition, with a TPO of 17.1 KW. This can be retuned on the field and parts are available through Goodrich Enterprises (402)-493-1886. Call Michael Raley @ (704) 523-5555 or e-mail Mraley@bbnradio.org.

QEI FMQ series 6.0 to 9.6FM. This xmitter did a tour of duty in Argentina but some goofy laws in this country made it impossible to permit the station to operate at this power. To make a long story short it was only in operation no more than four months. Will let this go for $22k firm. Call Mike Raley at (704) 523-5555 or E-mail Mraley@bbnradio.org for pictures.

Pro Max II hobby transmitters, 0-5 watts PLL, $350. Gene Whittenberger, POB 396, Mexico IN 46958. 765-985-2224.

TUBES

Want to Sell

TURNTABLES

Want to Buy

Turntables and tone arms, especially 16", in working condition. Write full details. KTRB Museum of Broadcasting, 1192 Norwegian Avenue, Modesto CA 95350.

EMPLOYMENT

HELP WANTED

TELECOMMUNICATIONS CONSULTANT: Evans Associates, a nationally recognized consulting firm, seeks a broadcast consultant with experience in AM, FM, TV, DTV engineering and field work. Full-time position, salary commensurate with education and experience. Good people skills required. Partner track available. Contact Liz Wilson at 262-242-6000.

POSITIONS WANTED

V12 a.k.a. "Trillionaire" (meaning "sky's the limit") one for your arsenal. ABS grad. Let's up the ratings and make money. michaelbecton@yahoo.com.

Energetic, creative, professional, willing to relocate. Seeking DJ, production, or sales position, I'm what you need. Satisfaction guaranteed. Jen 405-491-0925 or THEJFIMUSICKHEAD@aol.com.

Energetic, hard-working, extremely versatile, motivated individual. Currently working as a DJ in the DFW area. Marcus Hildebrand, 817-557-5091 or email: marcushildebrand@yahoo.com.

Entertainment and news enthusiast craving opportunity in broadcasting to reveal talent in research, writing and delivery of breaking topics. Laura Hartman, 817-771-4021 or email: lauralyn24@hotmail.com.

Friendly, industrious, commercial FCC 1st Class with radar-amateur radio extra licensed, asst. CE, seeks FT, PT, contract, with AM, FM, cable, TV, preferred within 75 mile radius of metro NYC area. 718-969-5224 or write: Mitchell Rakoff, 110-64 Queens Blvd, PMB# 494, Forest Hills NY 11375-6347 or email: MitchellRakoff@Yahoo.com.

Let me prove myself! Proficient in all areas of radio broadcasting, production and copywriting. Will relocate from Dallas. Peter Christian "The Godfather of Sports", 972-255-1630 or mrbill1927@hotmail.com.

Hard worker, team player, reliable. Want more? I'm willing to give more. On-air announcer, smooth voice. Board operator, copywriter, and more. Anthony, 806-376-4712.

I am hard-working, and I talk easily with people. I am looking for an opportunity to get my foot in the door of the radio community. Randy, 405-782-0647.

New and upcoming radio talent trained in production, sales, newscasting, copy writing, on-air announcing and willing to relocate. Matt, 405-206-8474.

People person, travel anywhere, new to the game, just the talent for your station, production skills out of this world. Call 817-293-6312 or babu2582000@yahoo.com.

Snatch me up now! Digital production and my inventive ideas will not let me stay on the job market long...so act NOW! Keith Russell, redonthehead111276@yahoo.com.

ADVERTISER INDEX

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

PAGE	ADVERTISER	WEB SITE URL
6	360 Systems	www.360systems.com
27	Armstrong Transmitters	www.armstrongtx.com
40	Autogram Corporation	www.autogramcorp.com
30	Belar	www.belar.com
40	Bext	www.bext.com
24, 25	BSW	www.bswusa.com
4	Burk Technology	www.burk.com
26	Circuit Werkes	www.circuitwerkes.com
7	Comrex	www.comrex.com
1	Continental Electronics	www.contelec.com
26	Cortana	www.cortanacorporation.com
37	Dorrough Electronics	www.dorrough.com
3	Electronics Research Inc.	www.eriinc.com
31	Full Compass	www.fullcompass.com
26	Gorman-Redlich Mfg. Co.	www.gorman-redlich.com
22	Grace Broadcast Sales	www.gracebroadcast.com
23	Harris/Radio World	www.rwonline.com/webinar103
32	Heil Sound Ltd	www.heilsound.com
26	Henry Engineering	www.henryeng.com
12	Inovonics	www.invon.com
35	JK Audio	www.jkaudio.com
40	LBA Technology	www.lbagroup.com
15	Logitek	www.logitekaudio.com
39	Mager Systems	www.magersystems.com
40	Mooretronix	www.mooretronix.com
11	Northeastern Communication Concepts	www.nccnewyork.com
9	Omnia, a Telos Company	www.omniaaudio.com
17	Omnirax	www.omnirax.com
21	OMT Technologies	www.omt.net
14	Radio Design Labs (RDL)	www.rdlnet.com
5	Radio Systems	www.radiosystems.com
10	Radio Systems	www.radiosystems.com
40	RealTraps LLC	www.realtraps.com
39	rfSoftware, Inc.	www.rfsoftware.com
39	S.C.M.S.	www.scmsinc.com
8	Sine Systems	www.sinesystems.com
26	Studio Technology	www.studiotechnology.com
13	Telos Systems	www.telos-systems.com
19	Tieline America	www.tieline.com
40	Walters-Storyk Design Group	www.wsdg.com
47	Wheatstone	www.wheatstone.com
48	Wheatstone	www.wheatstone.com
2	Wheatstone/Audioarts Engineering	www.audioarts.net
39	Whisper Room	www.whisperroom.com

ACTION-GRAM

EQUIPMENT LISTINGS

Radio World's Broadcast Equipment Exchange provides a FREE listing service for radio stations *only*. All other end users will be charged. This FREE service does not apply to Employment Help Wanted ads or Stations For Sale ads. These are published on a paid basis only. Send your listings to us by filling out the form below. Please be aware that it takes one month for listings to appear. The listings run for two consecutive issues and must be resubmitted in order to run again. Thank you.

Please print and include all information:

Are you currently a subscriber to Radio World?
❑ Yes ❑ No

Signature _____ Date _____

Contact Name _____

Title _____

Company/Station _____

Address _____

City/State _____

Zip Code _____ — _____

Telephone _____

Brokers, dealers, manufacturers and other organizations who are not legitimate end users can participate in the Broadcast Equipment Exchange on a **paid** basis. Line ad listings & display advertising are available on a per word or per inch basis.

WTS ❑ WTB ❑ Category: _____
Make: _____ Model: _____
Brief Description: _____

Price: _____

***Closing for listings is every other Friday for the next month's issue.**

All listings are run for 2 issues unless pressed for space or otherwise notified by listee.

Broadcast Equipment Exchange

PO BOX 1214, Falls Church, VA 22041 • Tel: 703-998-7600 • Fax: 703-998-2966

GUEST COMMENTARY

AM: The Simple Solutions Are Best

by Terry Jordan

I read with no small amusement about this "wonderful" new way to broadcast high-quality programming via IBOC. I'm reminded of the feeding frenzy in the '80s when AM stereo would bring the standard band up to par with the "my gosh, look at all the money they're making" FMs.

Managers of AMs were bombarded with advertisements touting AM would be on a level playing field. What happened?

A flash in the pan. The few stations that spent the bucks for an AM stereo generator looked around and, oops, almost nobody had the receiver to enjoy this new transmission method.

Familiar frenzy

I remember reading an article excitedly proclaiming that when listening to a baseball game in AM stereo, you could hear the crack of the bat in the right channel and the stadium organ in the left! Adding to the folly, most stations back in those days had tube-type plate-modulated transmitters with, in most cases, a common HV transformer for the modulators and PA subject to variations during instantaneous demands during modulation with accompanying carrier shift and other "nasties" — not a very linear "platform" to begin with.

With few receivers and the public not clamoring for hearing the drum in the left and tuba in the right on their AM sets, this flash in the pan finally did a General Douglas MacArthur and just faded away.

Now, 20-some years later, here we are with the same frenzy. The industry has changed. The notion that the airwaves belong to the public? Absurd! And — holy smoke — there's some fuddy-duddy rule in the Communications Act of 1934 (as amended) that broadcasters serve those *owners* of the airwaves "in the public interest, convenience and necessity."

I do not find any FCC rule that encapsulates what's happening now, such as, "Phooey with the public interest. Give lip service to news and public affairs. Automate as much as you can to get rid of those lazy people who think they are needed, and maximize profits for the investors. Suck the money out of the local market and mail it nightly to a blind box 1,000 miles away."

This is in addition to the FCCs infinite wisdom to let the high rollers gobble up all types of media without regard to fairness of opinion and the resultant squashing the little guys. Whose interest is served by this?

IBOC is nothing new. I do not hear listeners calling talk shows to leave a message for the manager saying, "Yea, please let whoever is in charge know that I would like a noise floor of at least –120 dB as opposed to the average –70 dB of today."

I worked in corporate radio but have returned to a "ma and pa" operation. Advantages? You bet. You get an answer within hours, not months or never.

I do not hear listeners saying, 'Yea, please let whoever is in charge know that I would like a noise floor of at least –120 dB as opposed to the average –70 dB of today.'

No demand

There are fewer and fewer locally owned stations; but for those of us who believe in serving the public interest, convenience and necessity, we enjoy a freedom that's refreshing. At the end of the day, the art of broadcasting is a most rewarding profession.

I'm now in semi-retirement near the coast of North Carolina, a partner in a 5 kW AM serving as chief engineer (like in the old days, when the engineer was around) as well as director of sales. I dump the trash at night and enjoy exercising my wife's airplane.

New engineers and on-air talent: if your only experience in radio is on the corporate side, the day will come when you'll seek out what radio *can be*.

Finally, the little AM and FM operators would probably go bankrupt buying the equipment necessary for IBOC operation. Most of us are using hybrid transmitters not designed for the requirements needed in this "new and improved" system.

Unless and until the public *demands* IBOC, the big guys investing the big bucks will have to stand tall before the investors one day. The simple reality is the listening public is happy with conventional radio broadcasting in the USA.

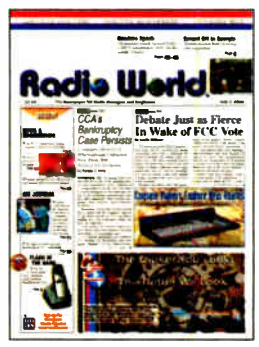
My suggestion is to remove the (AM) NRSC-2 RF mask covered by the FCC rules. In the daytime, there should be no interference due to skywave absorption. Have you listened to nighttime radio, especially on the "local" community channels? The blanket granting of 1 kW full-time on 1230, 1240, 1400, 1450 and 1490 has done nothing but raise the RSS level and greatly diminish groundwave coverage.

Return the locals to 250 watts at night and they'll have much greater local coverage. Let the receiver manufacturers open the intermediate frequency bandwidth to 12 kHz and you'll hear quality — and it costs nothing but removing the NRSC band-limiting filter and throwing it away. The simple solutions are normally the best solutions.

One more observation: human ears are *analog*.

Terry Jordan, MSEE, CPBE, CBNT
Jordanwerks Engineering Inc.
Fayetteville, N.C.

Engineering matters



I have been reading your magazine for over 25 years and find it to be a great tool for the radio engineer. I was taken aback by a letter in the July 2 issue by Larry Tighe, owner of a station in New Jersey.

Seems Larry doesn't think HD Radio has much of a chance of working and the only thing that matters at his station is programming. To quote him: "Engineers do not make a station successful; it's all about content." Another quote: "The PD makes the station successful; the engineer is virtually irrelevant to the listener."

Any of you fine engineers want to work for this type of owner? Did I hear you say your owner is just like that? Maybe this is why most radio engineers now have other careers.

Strange that AM radio is still living in the past and AM listenership has dropped to an all-time low. Maybe it's because many of the engineers have left and are using their talents in other successful ventures, like satellite radio. Maybe that is why Larry listens to XM.

By the way, XM was designed and built by engineers. Maybe that is why Larry has to go to the Internet and download music. By the way, the Internet was designed and built by engineers. Oh, and by the way, the CD players you use didn't come from aliens. They were built by engineers.

You may not be able to see it, but most aspects of your life were designed and built by some engineer.

As to the future of AM and HD Radio: I agree with Larry that the present form of digital radio is not the solution to AM radio's problems. I don't think the owners are going to pay never-ending royalties to Ibiquity or anyone else for a modulation scheme.

Digital radio, however, will come to be; and engineers need to develop a system that works. I personally think that for AM it should be in a new band, with an entirely new modulation technique. This would give daytime broadcasters the long-awaited chance to operate at night. Nighttime signals could exist without another distant station walking all over the signal.

This new spectrum idea has a real problem. The FCC has a cash cow and wants cash for all spectrum; on the other side, broadcasters have the mind set that it has to be free. Sorry, but XM didn't get free spectrum and neither will future broadcasters.

I agree with Larry on one point. You do need good programming or listeners will tune away. Most stations lack good programming, especially AM stations. AM is treated like an abandoned child.

Programming is important, but without engineering, your programmers are standing on top of the building with a megaphone. The rest of the transmitting plant is engineering.

If listeners don't care about quality, why do we have CDs, DVDs and XM? Also explain why engineers are continually dealing with listeners complaining about power-line interference and static on their AM radios.

Quality of signal and good engineering do matter. Just ask XM.

Tony Wortmann
Technical Director
WJAG(AM)/KEXL(FM)
Norfolk, Neb.

How to Submit Letters

Radio World welcomes your point of view on any topic related to the U.S. radio broadcast industry.

Letters should be 100 to 300 words long; the shorter the letter, the better chance it will be published in full. We reserve the right to edit material for space. Longer commentaries are welcome but may not reach print as quickly.

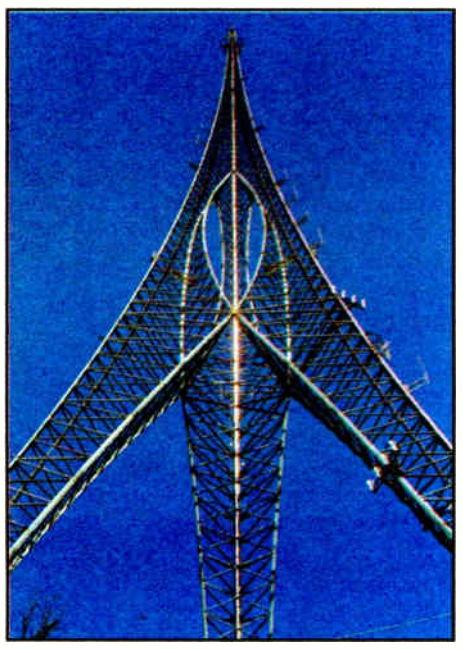
Include your name, address and contact information, as well as your job title and company if appropriate.

Send letters via 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◆

Loved your pix

I really enjoyed the Jim Hawkins photo piece in the July 16 issue of Radio World. It is great to get a reminder from time to time of the impressive and interesting historical details that inspired many of us to get into broadcasting in the first place.



Star Tower, Cincinnati

I am grateful that Hawkins loves broadcasting enough to capture and share the images of novel equipment and structures that most of us would never otherwise see.

Vicki Kipp
SBE CSTE, CBNT
Madison, Wis.

IBOC misinformation

I have just read the letter from Ralph J. Carlson in the July 2 Radio World ("Can Cam-D save AM?"). Imagine my surprise to read that WOR(AM) had to stop broadcasting baseball games because of the inherent delay of the analog channel with IBOC.

Considering that the last baseball team carried by WOR was the Brooklyn Dodgers, that would mean that IBOC has been with us for at least 40 years now. And I thought we were the first ones in New York to turn on this new technology.

For the record, WOR broadcasts Rutgers University football and basketball, and New Jersey Nets basketball games. The IBOC delay causes no grief for us in either case.

And herein lies my "attitude" with the misinformation in the field regarding IBOC and other technologies. I really wish that people would get their facts together and do the research before making statements such as "WOR(AM) in New York had to give up broadcasting baseball games in digital because of a second delay between the event and the station signal." This is completely and utterly inaccurate.

We are on the verge of a new age in radio broadcasting as we know it. Like it or not, we are going to have to, in some cases, redefine coverage areas and how we do things.

For example, we are broadcasting the WOR morning show from a moving cruise ship down the Hudson River for a breakfast cruise to the Statue of Liberty. How are we handling the IBOC delay? We have a milliwatt FM transmitter that we will be feeding mix/minus audio on site for monitoring using regular Walkman-style radios. We can also mix in talkback so the morning show members can wander unimpeded with their wireless mics.

Regarding Cam-D, I read the white paper on it. Why on Earth someone would want to put a system on the air that maintains the same old noisy analog channel up to 8 kHz (which is primarily mono), then adds a digital carrier to produce audio up to 15 kHz (and, incidentally, also takes up more than +/- 10 kHz bandwidth!) is beyond me.

If the only thing IBOC does for AM radio is force stations to straighten out their bad antenna systems, there will be a major improvement in AM broadcasting and it will all be worth it.

Thomas R. Ray, III, CSRE
Corporate Director of Engineering
Buckley Broadcasting/WOR Radio
New York

Kudos for ARP

To Al Peterson: As broadcast licensee of Atlantic City/Ocean City's WIBG(AM), and *still* using Digilink II with five whopping 1GB full-height drives and a 286 motherboard, and still cranking out the Contemporary Christian hits, your article "Disk Space: The Final Frontier" (April 23) is refreshing.

You are a fantastic writer and prolific communicator. The only other writer who scores with the same vibrato as you is Norm Liebmann, a friend, who originally developed "The Munsters" TV sitcom and wrote for Johnny Carson and many others. His articles appear on *newsmax.com* and other Internet sites.

Use that talent, brother. You've got it.

Now lets see: 700 years of disk space. Don't think you or I will be around to see "disk full" messages coming from that baby.

Rick Brancadora
LifeSounds Digital/WIBG(AM)
Ocean City, Somers Point, N.J.

Don't Let It Get Personal

As lawmakers ratcheted up the rhetoric in late summer about the FCC's new media ownership rules, the tone became personal, almost ridiculous. We oppose what the FCC did. But the anti-deregulation camp should take a deep breath and tone down its attacks lest it hurt its own cause.

Certain lawmakers, we suspect, simply are after ink to fuel their reelections back home, and they eagerly jump on the bashing bandwagon.

FCC Chairman Michael Powell has been accused of ruining the agency. Rep. Lynn Woosley, D-Calif., accused the FCC of trying to impose a centralized "Saddam-style information system in the United States." This was her argument for returning the TV audience cap back to 35 percent. Please. Sen. Byron Dorgan, D-N.D., has said the commission's deregulatory stance is the "apex of irresponsibility."

We're glad these issues are being aired. At least Americans are paying attention now. But it's an ugly look at the way Washington works.

The outrage over the vote is such that Powell reportedly considered leaving his post. He has denied those rumors.

Powell is not unpartisan, either, but the man is doing his job. While some of us may not like the outcome, spewing rhetoric for the benefit of C-SPAN cameras is not the answer. Yet as we move closer to election season, spewing is the order of the day. Powell has said the tone has become shrill. That's true — and the same applies to the issue of consolidation.

The Senate Commerce Committee has been practically beating large radio group owners over the head for the effects of consolidation, as if lawmakers weren't there when Congress passed the Telecom Act of 1996. Then-President Bill Clinton signed that bill; yet he was among those carping this summer about the effects of consolidation. Are we supposed to believe now that lawmakers didn't understand the potential result of loosening ties on ownership? Hello?!

In the same vein, we are annoyed that the committee scheduled a hearing on the likely effect of the new rules on radio; the agenda included important practical topics like market definitions, for example, but it took most of that precious time to berate Lew Dickey of Cumulus over the Dixie Chicks matter — an important topic, certainly, but not the point of the meeting. More theater. Opportunity lost.

Quietly, we're glad that these issues are being aired. At least Americans are paying attention now. But it's an ugly look at the way Washington works.

Consolidation *has* had unintended negative effects on radio. The new FCC rules *will* further the damage. This debate is serious.

The tone of the discussion should reflect that. However, we work inside the Capital Beltway. Perhaps we should know better.

— RW

More Opinion On Page 45

Radio World
Vol. 27, No. 17 September 1, 2003
Telephone: (703) 998-7600 • Business Fax: (703) 998-2966 • Editorial Fax: (703) 820-3245
E-mail: radioworld@imaspub.com • Web site: www.rwonline.com

NEXT ISSUE OF RADIO WORLD SEPTEMBER 10, 2003

For address changes, send current and new address to RW a month in advance at P.O. Box 1214, Falls Church, VA 22041. Unsolicited manuscripts are welcomed for review: send to the attention of the appropriate editor.

Radio World (ISSN: 0274-8541) is published bi-weekly 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: Reprints of all articles in this issue are available. Call or write Joanne Munroe, P.O. Box 1214, Falls Church, VA 22041; (703) 998-7600; Fax: (703) 998-2966.

—Printed in the USA—

WHEATSTONE D-4000

DIGITAL AUDIO CONSOLE

Based on the technical architecture of our popular D-5000, this new D-Series console is totally modular, offering features to satisfy the most demanding engineers—but at a lower price point than its predecessors.

- *Hot-swap design*
- *Four stereo mix buses*
- *Six pointer-style true VU meters*
- *Any mix of digital and analog inputs*
- *AES and balanced analog outputs*
- *Choice of master clock rates*
- *Up to 4 mix-minus outputs using SPD-4000 phone remote modules*
- *24 bit A-to-D conversion on analog inputs,*
- *A/B source switching with fully independent logic and machine control*
- *Mode selection on stereo inputs*
- *Low profile drop-through counter design*
- *Multiple studio outputs with talkback interrupt*

*Wheatstone has more digital audio experience than most of our competition combined. The D-4000 is a truly high performance, reliable console that will make your transition to digital a pleasure. Benefit from our expertise—**CHOOSE WHEATSTONE**—the Digital Audio Leaders!*

Wheatstone

sales@wheatstone.com / tel 252-638-7000 / www.wheatstone.com

GENERATION 9 DIGITAL CONTROL SURFACE

Designed to integrate flawlessly with the Wheatstone BRIDGE digital audio network router, the Generation 9 control surface allows you to easily create large or small platform-based systems that are exceptionally user-friendly and flexible. Wheatstone BRIDGE network cages house all I/O ports and engine cards, and may be wired in tandems within a single equipment room or interconnected to separate remote locations by means of fiberoptic or CAT-5 cables to provide single wire studio integration schemes.

Once configured, the system operates entirely independently of external computers. Configuration itself is intuitive and carried out onsite by means of user-friendly graphic interfaces provided by Wheatstone desktop software. We have gone to great lengths to make these setups easy for your field engineers, allowing expansions and changes to be achieved painlessly. Naturally, the Generation 9 system also takes full advantage of Wheatstone's exclusive VDIP® configuration software as well, so that studio functions (like mutes, fader and timer starts, tallies, etc.) are easily accomplished right at your desktop. Once set-up is completed the desktop is disconnected; all settings are retained in nonvolatile storage and the entire system runs standalone. Ethernet protocol is built in, providing interface with automation, scheduling, and hardware controllers as you require.

Whether you're planning a small, centrally located studio network or a large, multiple format build-out, the Generation 9 Digital Control Surface can form the basis for a fully integrated, reliable and user-friendly broadcast system that will handle your most demanding requirements *and* be able to change with your varying needs as they arise.

At Wheatstone we have more combined digital design expertise than anyone. ***Benefit from our hard work!*** *Choose WHEATSTONE—the Digital Audio Leader.*

Wheatstone Corporation

600 Industrial Drive, New Bern, North Carolina, USA 28562
www.wheatstone.com / sales@wheatstone.com
tel 252-638-7000 / fax 252-635-4857