

*****AU*0**3-DIGIT 857
 S140515 D08 0408
 CHRISTOPHER HOLICK 570
 ASST ENGINEER
 AZ BROADCAST SERVICES
 2033 S AUGUSTA PL
 TUCSON AZ 85710 7905

Managing the Buy

Frank Grundstein offers insights into cap-ex planning.

Page 16

With Friends Like These ...

Charley, Frances, Ivan, Jeanne ... How stations cope with hurricane season.

Page 8

Radio World



\$2.50

The Newspaper for Radio Managers and Engineers

October 20, 2004

INSIDE

NEWS & ENGINEERING

▼ Serve and volley on mandatory program retention.

Page 5



▼ Sports, once a revered part of radio broadcasting, may be the 'next lost format.'

Page 12

▼ It's 'Hott' in here: Grady Moates helps put a new FM in Bermuda on the air.

Page 20

GM JOURNAL

▼ Less clutter will work, one analyst says, because verification will keep radio groups honest.

Page 26

BUYER'S GUIDE

▼ If you're shopping for an automation system, this issue is for you.

Page 30

OPINION

▼ Vern J. Kaspar wants to know: Must we sacrifice the Constitution for content control?

Page 45



Terror Alerts: Next Step Is Up to You

Broadcasters Need to Program Terrorism Alert Codes Into EAS Units

by Gary Timm

The author is broadcast chair of the Wisconsin EAS Committee.

WASHINGTON Are you ready to begin relaying Homeland Security terrorism warnings through your Emergency Alert System encoders/decoders?

In June, the U.S. Department of Homeland Security reached an agreement with the National Oceanic and Atmospheric Administration's National Weather Service to relay regional, state and national terrorism warnings via NOAA Weather Radio.

However, no guidance has been given to broadcasters as to what Emergency Alert System event and originator codes to program into their EAS units in order to relay these alerts.

Observers familiar with EAS believe this is a big issue for broadcasters.

If the Department of Homeland Security becomes aware of a threat in a particular

See DHS, page 6 ▶

Vehicle Signal Services Test, Remain Hopeful

WASHINGTON The companies developing emergency vehicle signaling services say they are moving forward — despite opposition from the NAB and SBE, and slowness on the part of the FCC to allow the companies to test the technology in this country.

Officials with Safety Cast Corp., Alert Devices International Corp. and AlertCast Communications LLC claim their devices would make roads safer by

alerting motorists of approaching emergency vehicles. An Emergency Vehicle Signaling Service, or EVSS, involves the installation of low-power transmitters in public safety vehicles. The transmitter uses the AM and FM bands to transmit a warning directly to car radios that are already in use.

Because of the "jamming technique" used by EVSS equipment, broadcast

See EVSS, page 10 ▶

Media & Music

Radio is part of next month's National College Media Convention in Nashville. Page 3



Shown: Nicole Scuriano of Loyola College in Baltimore. Photo by Brian Papajcik

Continental Electronics

Beauty...

More than Skin Deep!

The Newest Additions to Our Line of Advanced Broadcast Transmitters

816R Series
11, 21.5, 25, 27.5, 30, & 38kW
FM Broadcast Transmitters

A New Line of Solid-State Transmitters
(815D5 5kW FM shown)

DRS BROADCAST TECHNOLOGY

DRS TECHNOLOGIES

www.contelec.com 800.733.5011

Super Bowl Ruling Anticlimactic

by Leslie Stimson

WASHINGTON After a stream of inaccurate press reports saying the FCC had released a decision in the CBS Super Bowl indecency case, the actual decision, when it arrived in September, was somewhat anticlimactic, observers felt.

But the decision did seem to give new momentum to legislation to raise indecency penalties dramatically. A compromise may be passed before lawmakers end this session for elections, some FCC watchers said.

The agency said CBS apparently violated its indecency rules and proposed a total \$550,000 fine, the maximum penalty it

could impose, at \$27,500 for each of the 20 owned and operated CBS stations that aired the half-time show.

dedented back-to-back hearings on indecency.

Several major radio groups, including

We continue to believe that nothing in the Super Bowl broadcast violated indecency laws.

— CBS

Those who felt the decision was anticlimactic said a real chilling effect for radio began in February, right after both houses of Congress held unprece-

Infinity, instituted so-called "zero tolerance" policies and installed profanity-delay equipment to prevent indecency incidents.

CBS was reviewing its options after the FCC proposed the fine. It had 30 days to either pay the amount or appeal.

'Extremely disappointed'

The network said in a statement it was "extremely disappointed" in the ruling. "We continue to believe that nothing in the Super Bowl broadcast violated indecency laws." CBS also said its investigation of the Janet Jackson breast-baring "proved that no one in our company had any advance knowledge about the incident."

CBS and MTV, the cable unit of parent company Viacom, produced the show.

In its decision, the FCC said it proposed the maximum amount against each of the 20 television stations that aired the show "due to the involvement of Viacom/CBS in the planning and approval of the telecast and the history of indecency violations committed by Viacom's Infinity Broadcasting Corp. subsidiaries."

Although more than 200 other CBS affiliates, not owned by Viacom, also aired the material, the agency did not propose forfeitures against them because they had no control over the material, it said.

Chairman Michael Powell said of the fine, "No television event has ever received as many complaints from the American public — over 540,000 — as the Super Bowl XXXVIII halftime show produced by CBS. As countless families gathered around the television to watch one of our nation's most celebrated events, they were rudely greeted with a halftime show stunt more fitting of a burlesque show."

Commissioners Jonathan Adelstein and Michael Copps said the non-owned affiliates should have been fined as well and felt the overall amount was too low.

"This fine needs to be seen in the context of a broadcast in which each 30-second commercial cost more than \$2 million," said Copps.

See CBS, page 3 ▶



THE AUDIOARTS ENGINEERING D-16

IT LOOKS EXPENSIVE — BUT IT'S NOT!

THIS NEW RADIO CONSOLE from Audioarts combines the benefits of a ROUTER and an AUDIO CONSOLE into one COST-EFFECTIVE digital package, letting you route any input to any fader or to any monitor feed, with all sources clearly shown in bright LED dot matrix displays right above the faders and monitor level controls.

A COMPACT TABLETOP DESIGN, the D-16 has the features you need: both analog and digital PROGRAM and AUDITION stereo outputs, 2 MONO analog outputs, 14 input faders plus 2 caller faders, 4 mic preamps, control room and studio monitoring, built-in cue and headphone amps (with concealed headphone jack) — even four internally generated mix-minus outputs!

WITH 24-BIT A>D and D>A inputs and outputs and sample rate converters on every AES digital input, the D-16 will work with virtually any digital source gear you have. It can run your source machines too (up to eight of them) — all opto-isolated. Its DSP DIGITAL METERING simultaneously displays VU columns and peak hold fullscale digital so you can be assured of pristine performance. Its powerful caller tools generate mix-minuses automatically, and you can program any of its four MXM outputs to be pre or post fader.

And with Wheatstone's extensive digital background and reputation you can be assured that the D-16 is a great console!



AUDIOARTS ENGINEERING

252-638-7000 / www.audioarts.net / sales@wheatstone.com

Copyright © 2004 by WHEATSTONE CORPORATION

Index

NEWS

Terror Alerts: Next Step Is Up to You	1
Vehicle Signal Services Test, Remain Hopeful	1
Super Bowl Ruling Anticlimactic	2
College Students Hit Music City	3
Radio When There's No Place to Hide	4
Recording: Just Inefficient or Just Too Much?	5
What All Those Acronyms Mean	6
Stations Cope With Hurricane Season	8

FEATURES

Radio Sports: Another Format at Risk?	12
Clear Channel Reduces AM Bandwidth	14
Manage the Process, Not the Purchase	16
Check the Conduit	17
Workbench: Open an Umbrella, Save a Transmitter	18
Bermuda Gets a 'Hott' New FM Station	20

GM JOURNAL

KPYK Is a Real Mom & Pop Station	23
'Bright Lights' Will Help Radio	26
Oneword Radio Speaks to Listeners	28
Help Out a Student You Know	29

BUYER'S GUIDE

NPR Affiliate Updates With Prophet	30
Regional Group Automates With OAD	32
WAYG Merges Vault ² , Console, Router	34
KKDA Makes the iMediaTouch Switch	36
Smartcaster Veteran Eyes New Model	36
RCS Helps Arman FM Go National	37
Citadel Standardizes on Scott Studios	39
Stations Depend on DAD for Storage	41

OPINION

Fight Mandatory Program Logs	45
Reader's Forum	46
Leonard Kahn: Hard to Love, Hard to Ignore	46

College Students Hit Music City

by Ken R.

Nashville, Tenn. Universities are not just about fraternities and sororities, sports and finals. Ask the students at those campus radio stations and newspapers.

College radio, TV and Internet broadcasters, administrators and engineers will gather in Nashville Nov. 3-7 for the National College Media Convention.

the convention covers all aspects of broadcasting.

"There are sessions for advisers, program directors, student managers, music directors, technical people and underwriting specialists, who are a big part of non-commercial radio," he said.

Broad areas that will be covered in sessions include underwriting; traditional broadcast (radio and TV) and church-relat-

extracurricular activities in which students can participate."

about management, so we have tried to accommodate that. Of course with college radio, training is a big issue because you keep getting new people each year," said Bland. "I'm not sure if students who attend will walk out with a job offer right



A vendor describes his radio software to two attendees at last year's show.

Sponsored by Associated Collegiate Press, College Media Advisers and College Broadcasters Inc., this annual event will include four keynote speakers, 300 breakout sessions, an on-site career competition, awards and a trade show.

Much as minor league baseball is the training ground for tomorrow's big league superstars, colleges today serve as an incubator for young men and women headed into the world of commercial broadcasting.

Dan Knight, adviser at KVRX(FM) at the University of Texas at Austin, has been involved with staging the event for several years.

Underwriting, ethics included

The three components of this convention are the Associated Collegiate Press, which represents print media people; College Broadcasters Inc. for broadcasters; and College Media Advisers for advisers.

"We should have almost 3,000 attendees this year," Knight said, adding that

ed programming; diversity and ethics. Also covered are print media such as magazines and newspapers, the Internet, photojournalism, professional development, research, student leadership, technology, yearbook and media law.

How do you listen?

In the earliest days of campus broadcasting, many stations used carrier-current AM as the primary means of transmission so students could listen in dorms. Now some stations are heard on carrier current while others might operate at 50 kW on FM. Still other "broadcasters" are now Internet-only.

It is a mixed bag of formats, too, according to Will Robedee, general manager of KTRU(FM) at Rice University.

"Many of our stations air classical music; some play blocks of jazz and international music. Most college stations are noncommercial, but not all," he said. "Many campus stations are associated with a degree program, but some are

mise was near enough to get something passed this year.

At hearings leading up to congressional action earlier in the year, then-CBS President Mel Karmazin and other broadcasters said the commission's indecency rules are vague.

In September, Powell said, "It's not possible to write a 'red book' of do's and don'ts," but that the decision offers broadcasters some of the guidance they've said they've needed.

Powell himself ordered the probe the day after the Super Bowl and the commission received more than 500,000 complaints about the show.

The FCC began stronger enforcement soon after the Super Bowl, fining per utterance instead of per show. It has also reached two major settlements with large radio groups over pending indecency cases: a \$300,000 settlement with Emmis and \$1.75 million for Clear Channel Radio.



Students from KRDU at Drury University in Springfield, Mo., jam.

"We suggest students bring a couple of pals from their station, each attend different sessions and compare notes," said Ron Bland, a lecturer in the University of Texas at Arlington and chairman of this year's National College Media Convention.

The cost to attend varies. Member students pay \$79, member advisers \$95 and non-members can register for \$145. Spouses, partners and family members can attend for \$40 each. Transportation and lodging, of course, add to the tab.

"This year, people want to hear more

away, but it doesn't hurt to network and get to know people because in a few years, the people you meet will be the ones doing the hiring."

Info on the Net

The Internet site for this convention is www.collegebroadcasters.org. Those who want more details of the specific sessions to be conducted can download the entire program in Adobe format from www.studentpress.org/acpnashville/acpnashville.pdf.

CBS

Continued from page 2

Since the show aired, lawmakers in both the House and Senate passed legislation to substantially raise the penalty the FCC can assess for broadcast indecency. The current amount, which the commission used for each of the CBS O&Os, is \$27,500.

Compromise?

The House voted to raise the maximum indecency fine to \$500,000. The Senate voted to increase the maximum penalty to \$275,000 per incident with a cap of \$3 million per day. Both bills remained pending in Congress, tacked onto spending measures, with fewer days for lawmakers to conclude their business in this election year.

But after the decision in September, at least one lawmaker, Sen. Sam Brownback, R-Kan., thought a compro-

ELECTRONICS RESEARCH, INC.

Winner of a Radio World "Cool Stuff" Award

Dual Input Side Mount FM Antenna For IBOC Applications

- Both analog and digital signals are radiated from the same elements
- Digital has the same gain as the analog
- Uses no additional aperture
- No additional wind loading from interleaved elements

+1 (812) 925-6000 | www.eriinc.com

Your Single Source for Broadcast Solutions

Radio When There's No Place to Hide

Jim Boyle says, "It's incumbent on radio to disprove the bear case."

That's a Wall Streeter's way of saying our industry has been beaten up in the financial headlines this year, but it still has a lot in its favor.

Boyle is managing director of Wachovia Capital Markets. You and I might not talk to folks like Jim Boyle much, focusing as we do on the technology and engineering issues of radio. I recently read a report he co-authored called "Radio: Cutting Clutter Will Work — Bright Lights Coming" (see story, page 26), and called him to pick his brain a bit.

Cut the excess

The report is interesting to me not only because I care about the health of radio, but also because it marks a new trend: financial analysis of radio groups based on third-party monitored program material.

We've reported on these technologies in recent issues. In this case, Wachovia used data collected by RCS Inc. to try to find out just how heavy spot loads are among major groups.

It's a great example of how this new kind of data can be put to work. Now that outsiders have begun tracking inventory in a detailed way, advertisers and investors no longer have to take the word of radio groups about what spots played and when. They can analyze actual inventory loads.

"There's no place to hide," Boyle said. "With third-party databases (informing) investors, you can't sit there and say you're doing 12 (spots per hour) if you're doing 14. The investment community is starting to become more aware of the availability of the new databases. The numbers are going to be out there on this side of the fence."

This accountability is good for radio,

Boyle says, because it will confirm whether radio is keeping its promises to lighten loads. A lighter spot load will help boost rates, which is where radio needs to make its money. This fixes what Boyle sees as an imbalance in the demand/supply equation.

Radio, Boyle says, now has to put up the numbers.

"They have to prove that the business model isn't broken, as so many investors like to say. We think it's just cracked, and therefore can be fixed.

"One main way is to eliminate the excess inventory that stemmed from the ad rate cutting that started after the Iraq invasion and never really stopped. If 70 to 80 percent of growth has been in rates, you can't have growth *without* raising rates."

One-trick pony?

Boyle says radio's recent revenue performance has "not exactly been historically impressive," noting that larger groups were reporting growth in the low to mid single digits through midyear.

"In the second quarter, you had a much more lackluster number put up by the industry. (There is) concern that radio is no longer taking significant advertising share from other media. ... If you don't have that, or if they start losing share to cable, Internet or satellite, you might have that coming out of the hide of radio.

"What has happened to the share shift?" he wonders, referring to radio's attempts to take a bigger piece of the ad pie. "Maybe that's over. Some investors feel radio was a one-trick pony — deregulation and consolidation — and now that's all over."

This, however, is not Boyle's view.

"They neglect the 70+ years of track record before that. Instead of the historic 6 to 8 percent revenue growth, investors have radio priced at about half that going forward.

"It's incumbent on radio to disprove the bear case. We think it has a good chance of doing that, although probably not this year."

Clear Channel's decision to reduce loads will have a significant operational effect on radio for several months.

"You have the preparation in Q4," Boyle said. "That won't help (employees) pay attention to the regular business. A thousand

From the Editor



Paul J. McLane

stations have to get ready for the Jan. 1 deadline. The actual results start to hit in Q1."

But Boyle and his colleagues at Wachovia think Clear Channel made the right call by reducing ad inventory: their report describes "a gutsy, superb long-term move."

"Most groups agree it's a good direction and approach," he told me. "Some have said something pretty close to, 'Whatever Clear Channel does, we're going to remain competitive.' If Clear Channel gets to that level, competitors will be forced to."

So, thanks to lighter spot loads and the enforcement of this trend by third-party monitoring, Boyle remains confident in radio.

What about the recent gloomy articles in Barron's and Forbes and other national media concerning radio?


"Besides absorbing too much propaganda from (radio's) competitors," he said, "what they don't get is that *everything* is being used less than before. There are more options."

He cites a presentation by RAB on radio usage.

"Surveys show there's only two things we do more of: use the PC, and video games. Everything else has been fragmented. But radio, out of home, has lost at a slower pace."

(We also get less sleep and less sex, he points out.)

"I suspect Barron's and Forbes' circulation is down from a decade ago. To cast aspersions at radio as if it's the only one is the usual print journalist approach. It ignores the big picture," Boyle concludes.

"Radio is actually doing better in a more fragmented world, and is still very powerful to reach a mobile population making last-minute purchasing decisions." 

FAQ: Engineering Extra

This month we'll deliver to readers our first issues of the new Radio World Engineering Extra, an extra edition of your familiar Radio World newspaper, published six times a year.

Radio World's Engineering Extra is available free to radio engineers and qualified technical personnel. You must sign up separately to receive it. You can do so at www.rwonline.com/eng-extra.

Why are you adding it to your offerings?

Long-time supporters of Radio World know that purchasing and technical decisions in radio now are made by both engineers and non-engineers, techies and non-techies. Radio World newspaper does a superb job of covering our industry in a way that is informative to both audiences.

But we often would like to cover an important topic that cannot be reported in a typical article of 900 words and one graphic. Further, many readers have asked us for more in-depth technical discussions — stuff that an engineer would like to sit down with over a cup of coffee, but which might cause non-technical managers to put the paper aside.

This new "deep tech" edition gives our advertisers a new tool to reach that core technical audience without sacrificing the special mix of content that sets Radio World apart.

Who writes and edits it?

The authors are broadcast engineers and the technical experts who support our industry including designers, inventors, theorists and educators.

Its technical editor is Michael LeClair, CPBE, chief engineer of the four-station WBUR Group in Boston and a veteran of 26 years in broadcast engineering. He will work under the direction of Radio World Editor Paul McLane on the content of the Engineering Extra.



...SCROLL WITH IT...



RDS Master™

RDS ENCODER

The RDS Master sets the standard for RDS datacasting. It delivers powerful user features, like Web-based setup menus and TCP/IP access for changing your settings on the fly. Scrolling RDS displays artists and song titles, and you can update messages as often as you want. You can even integrate the RDS Master with your remote control.

Visit www.burk.com/rds and learn more about the easiest to use and most versatile RDS encoder available today.

Scroll with it. You'll see the difference.



BURK

TECHNOLOGY

800-255-8090 (Main Office)
800-736-9165 (Kansas City)
www.burk.com

Recording: Just Inefficient or Just Too Much?

Two Just Views on Program Retention:
Is It Regulatory Overkill or Hysteria?

by John Wells King and John Crigler

In order to improve its indecency complaint process, the FCC proposes to require broadcasters to retain a recording of material they air during the hours of 6 a.m. and 10 p.m., for 60 or 90 days. The basis for the proposal is that the more information the commission can have in its possession, the more informed a decision it can make about a program when it concludes an investigation and decides whether to initiate an enforcement proceeding.

John King and John Crigler of the Washington law firm Garvey Schubert Barer illustrate the differences of opinion on the issue here.

King: As a lawyer, I'm sympathetic to the FCC's obligation to enforce the nation's law against the broadcast of obscene, indecent or profane matter, but this strikes me as an extreme exercise in expediency. I mean, if an FCC field inspector discovered a light out on a tower, would that be justification for the commission to require all broadcasters to monitor and log tower light readings every half hour?

Crigler: Save your sympathy for a more worthy cause. This is the kind of regulation that gives bureaucracy a bad name.

each broadcast station. Now multiply that times the approximately 18,000 licensed commercial and non-commercial broadcast stations, and the result-



John Wells King and John Crigler

ing number, 105,120,000 hours of recorded programming, gives you some idea of the magnitude of the proposal.

Its inefficiency is breathtaking, since FCC data indicate that, over the past 10 years, only 63 programs have been found to be indecent.

licensees out from under the proposal.

Crigler: I'm particularly sympathetic to an exemption for non-commercial stations, for several reasons, not the least of which is that the requirement would fall heaviest on those least able to pass along the cost. To the extent that the

ed consequences for noncommercial stations, which are subject to a range of content restrictions imposed by the FCC, IRS and the Corporation for Public Broadcasting. A program retention requirement could be used to intimidate noncommercial stations to avoid political or other controversial issues that have nothing to do with indecency.

For some of these reasons, a federal court of appeals, in 1978, struck down a 60-days program retention requirement imposed on noncommercial stations.

Carveouts for smaller markets or use of a program retention requirement as a sanction against indecency recidivists are sensible, but more "narrowly tailored" approaches may, ironically, be less appealing to the commission. Indecency is the primary but not necessarily the only target the commission has in mind.

In one of those casual asides that make lawyers faint, the Notice of Proposed Rulemaking suggests that a program retention requirement could be useful for enforcing all sorts of other requirements, such as proper sponsorship identification or commercial limits in children's programming, or ... who knows what?

King: Who knows what, indeed! Forcing stations to become librarians of their own prodigious output raises a host of practical questions. We won't even consider the personnel, storage and maintenance issues.

Would a station have to honor a
See RECORDING, page 8 ▶

How about a 'strike two' proposal? Make only the past offenders do the program recording and retention.

— John King

Forget, for a moment, that one of the not-so-veiled purposes of the rule is to put First Amendment freedoms in the deep freeze by reminding broadcasters that every word they broadcast may be subject to minute scrutiny. Consider the proposal in only the simplest terms of benefit and costs.

Sure, some people may be offended by something they hear on their way to work or see on TV, in circumstances where they can't tape the program or take detailed notes about it; but data collected by the FCC and presented in Senate testimony by the FCC chairman indicate that only 1 percent of complaints are currently dismissed because of procedural defects, such as the failure to submit a tape or detailed transcript of a program.

So, even if we assume that the program retention requirement will "enhance" the indecency complaint process, the benefit it will bestow is marginal at best.

Now calculate the burden. Each broadcaster would be required to record up to 16 hours a day of programming.

Over a year, that amounts to 5,840 hours of recorded programming for

King: My sentiments exactly. How many similes can we throw at this idea? It's like swatting a flea with a sledgehammer. Like unclogging a sink with a cherry bomb. Like driving a Hummer in a go-cart race. Lighting a barbecue with a flamethrower. Crossing a pond in a cruise ship. Carving toothpicks with a buzz saw.

Who fails to see the overwhelming inefficiency of the proposal? Okay, who other than the commission? Having acknowledged that, let's return to my sympathy for a moment.

If the commission is charged by Congress with enforcement of the indecency statute, which it is, and if Congress took the agency to the proverbial woodshed for its laid-back enforcement, which it did, then how might the commission discharge its responsibility better?

Perhaps by imposing a recording requirement only on stations in the top 100 markets. Or only on syndicated morning shows. Or only on commercial FMs?

How about a "strike two" proposal? Make only the past offenders do the program recording and retention. That one would lift, by your count, about 17,937

commission's goal is to prevent the commercial exploitation of indecent material, or "pandering," the non-commercial stations should not be on its radar.

The requirement could have unintended

Upgradeable!

RS-Series Console model RS-12 circa 1988

Millenium Console model RS-12a circa 1998

Millenium Digital Console model RS-12d circa 2004 (4th quarter)

Buy a Radio Systems' console with the confidence that you can always upgrade to the next level of performance.

Only Radio Systems protects your console investment by providing a program of significant styling and technical improvements for your still-dependable, but aging Radio Systems' boards.

Upgrade from your older RS-Series console to a beautiful, more fully-featured Millenium console today, or buy a new Millenium board and upgrade to digital performance whenever you're ready.

Upgrade kits are inexpensive and available for field or factory installation.

601 Heron Drive, Logan Township, NJ 08085
(856) 467-8000 • (856) 467-3044 FAX
www.radiosystems.com

What All Those Acronyms Mean

The following are definitions of the Non-Weather Related EAS Event Codes, as found in National Weather Service Instruction 10-518, Appendix C, which took effect Sept. 8, 2004.

These definitions will be used by federal agencies as guidance in selecting EAS Event Codes for non-weather related alerts.

Administrative Message (ADR) — A non-emergency message that provides updated information about an event in progress, an event that has expired or concluded early, pre-event preparation or mitigation activities, post-event recovery operations or other administrative matters pertaining to the Emergency Alert System.

Avalanche Watch (AVA) — A message issued by authorized officials when conditions are forecast to become favorable for natural or human-triggered avalanches that could affect roadways, structures or back country activities.

Avalanche Warning (AVW) — A warning of current or imminent avalanche activity when avalanche danger is considered high or extreme. Authorized officials may recommend

or order protective actions according to state law or local ordinance when natural or human-triggered avalanches are likely to affect roadways, structures or back country activities.

Child Abduction Emergency (CAE) — An emergency message, based on established criteria, about a missing child believed to be abducted. A local or state law enforcement agency investigating the abduction will describe the missing child, provide a description of the suspect or vehicle and ask the public to notify the requesting agency if they have any information on the whereabouts of the child or suspect.

Civil Danger Warning (CDW) — A warning of an event that presents a danger to a significant civilian population. The CDW, which usually warns of a specific hazard and gives specific protective action, has a higher priority than the Local Area Emergency (LAE). Examples include contaminated water supply and imminent or in-progress military or terrorist attack. Public protective actions could include evacuation, shelter in place or other actions (such as boiling contaminated water or seeking medical treatment).

Civil Emergency Message (CEM) — An emergency message regarding an in-progress or imminent significant threat(s) to public safety and/or property. The CEM is a higher priority message than the Local Area Emergency (LAE), but the hazard is less specific than the Civil Danger Warning (CDW). For example, the CEM could be used to describe a change in the Homeland Security Alert System level in response to a terrorist threat.

Earthquake Warning (EQW) — A warning of current or imminent earthquake activity. Authorized officials may recommend or order protective actions according to state law or local ordinance.

Evacuation Immediate (EVI) — A warning where immediate evacuation is recommended or ordered according

to state law or local ordinance. As an example, authorized officials may recommend the evacuation of affected areas due to an approaching tropical cyclone. In the event a flammable or explosive gas is released, authorized officials may recommend evacuation of designated areas where casualties or property damage from a vapor cloud explosion or fire may occur.

Fire Warning (FRW) — A warning of a spreading wildfire or structural fire that threatens a populated area. Evacuation of areas in the fire's path may be recommended by authorized officials according to state law or local ordinance.

Hazardous Materials Warning (HMW) — A warning of a release of non-radioactive hazardous material (such as a flammable gas, toxic chemical or biological agent) that may recommend evacuation (for an explosion, fire or oil spill hazard) or shelter in place (for a toxic fume hazard).

Law Enforcement Warning (LEW)
See CODES, page 7 ▶

DHS

▶ Continued from page 1

state or area of the country, it would, after coordinating with authorities in each involved state, issue an alert to all National Weather Service offices via a link in the Washington area.

NWS offices with NOAA Weather Radio coverage areas affected by the threat will broadcast the message on NWR, using the DHS-requested EAS/Specific Area Message Encoding Event Code. Currently, the alert will not be relayed in text form on NOAA Weather Wire Service, Emergency Managers Weather Information Network or any other NWS system.

EAS code updates

Although many broadcasters have upgraded their EAS units to the new EAS Event Codes released in 2002, the second step is that the EAS encoders/decoders must be programmed to react to the new codes. If broadcast-

(Even though the alerts are first broadcast on NWR, they are originated by Civil Authorities and thus will not carry the WXR, National Weather Service Originator Code. These non-weather alerts will use the CIV Originator Code.)

- One of three Event Codes will normally be used. CEM (Civil Emergency Message) or CDW (Civil Danger Warning) will be used to activate the alerts. ADR (Administrative Message) will be used to terminate the alerts. If you want to be on the safe side, White advises that you also program the following codes for possible DHS use: EVI, HMW, RHW, SPW, FRW, LAE and NUW.

- At the present time, NOAA has requested that DHS use only the CEM code, until we can get the word out into the broadcast community to add these other codes into our EAS unit programming. Broadcasters should program these new codes into their EAS unit filters as soon as possible, and all stations are encouraged to share this information with other broadcasters in their area.

EAS encoders/decoders must be programmed to react to the new codes.

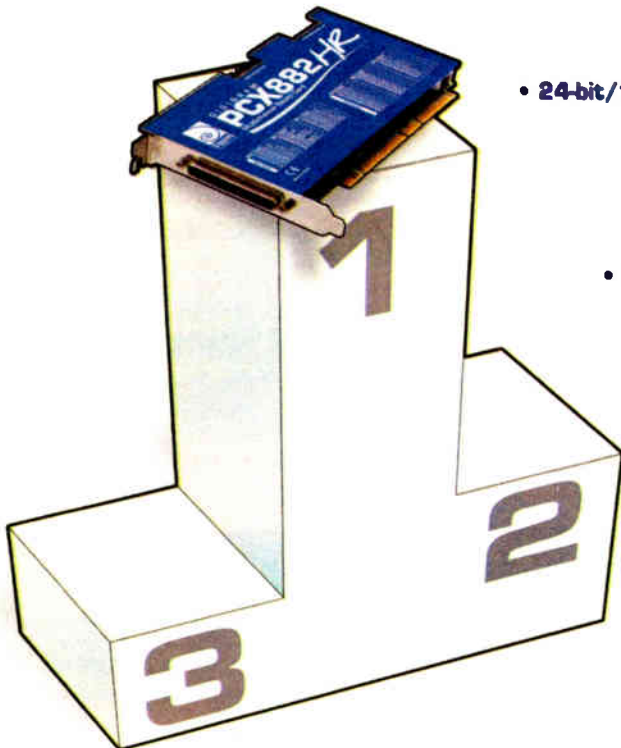
ers want to relay these DHS alerts, they will need to know the Originator Code and Event Codes to program into their EAS unit filters.

In reviewing NWS documents (NWSI 10-1710 and NWSI 10-518), as well as information provided by Herb White, dissemination services manager at NWS headquarters, the following are the recommendations White and I felt appropriate at this time.

- The Originator Code on all DHS alerts will be CIV, Civil Authorities.

- In addition to the DHS alerts, a separate agreement between NOAA and the FEMA National Warning Center exists for NWR to transmit warnings of nuclear attack as well as other non-weather alerts. Nuclear attack would use code CDW, and the other non-weather alerts could use any of the additional codes which Herb White recommends adding above. Using the guidelines above regarding programming for DHS alerts should then cover you for NWC alerts as well. The NWC

The industry standard reaches new heights



- 24-bit/192 kHz converters
- Hardware sample rate converters
- 66 MHz/64-bit PCI interface
- More powerful DSP
- Comprehensive set of drivers: Digigram np, WDM DirectSound, Wave, ASIO
- Short-length PCI format
- Maximum input and output level: +24 dBu

Presenting the new HR series of PCX sound cards

Digigram's PCX range of sound cards has become the de facto standard in the broadcast industry since its launch in 1989. The new HR series sets new benchmarks for the industry and underlines Digigram's commitment to superior audio quality, reliability, and innovation.

Digigram
Networking Your Sound

www.digigram.com - Tel: (703) 875 9100 - input@digigram.com

Codes

► Continued from page 6

— A warning of a bomb explosion, riot or other criminal event (e.g. jail-break). An authorized law enforcement agency may blockade roads, waterways or facilities, evacuate or deny access to affected areas, arrest violators or suspicious persons.

Local Area Emergency (LAE) — An emergency message that defines an event that by itself does not pose a significant threat to public safety and/or property. However, the event could escalate, contribute to other more serious events or disrupt critical public safety services. Instructions, other than public protective action, may be provided by authorized officials. Examples include: a disruption in water, electric or natural gas service, road closures due to excessive snow-fall or a potential terrorist threat where the public is asked to remain alert.

alerts are separate from any EAN messages issued by the White House.

NWS is taking the new All-Hazards Radio moniker to heart, and has made changes recently to make NWR more available to local civil authorities. As of June 30, all the new EAS Event codes were approved for use on NWR.

On Sept. 8, NWS offices began using the new EAS-equivalent Product Codes in text messaging as well (via NWS, EMWIN, etc.)

NWS also has published a helpful document, NWS Instruction 10-518, which helps local authorities to establish a relationship with their local NWS Office for the purpose of sending local emergency alerts.

Section 5 of the document, Civil Emergency Message, addresses local alerting. It covers developing procedures, issuance criteria and sample scripts.

Local alerting

Appendix C of this document is a landmark. Someone finally has defined the new specific EAS Event Codes.

The definitions in Appendix C will be used as guidance for federal authorities in issuing alerts, and they can be most useful to local authorities as well. State and Local EAS Plans should be updated at this time to not only include the relay of DHS alerts, but also to incorporate these new EAS Event Code definitions.

The link to this document is www.nws.noaa.gov/directives/010/pd01005018c.pdf.

Looking to the future, NWS is working on a system called HazCollect, which it expects to begin deploying in mid-2005. This would be a secure, centralized interface, with backups, which would be used to collect non-weather hazard messages from local, state and federal authorities and get them into the NWR system.

NWS is really going the extra mile to work with local authorities, and it's great to see.

Gary Timm is a broadcast engineer at Journal Broadcast Group in Milwaukee and broadcast chair of the Wisconsin EAS Committee. Contact him at gtimm@journalbroadcastgroup.com.

For questions about NWR e-mail herbert.white@noaa.gov. Herb White is dissemination services manager at NWS headquarters in Silver Spring, Md.

Network Message Notification (NMN) — Not yet defined and not in the suite of products for relay by NWS.

911 Telephone Outage Emergency (TOE) — An emergency message that defines a local or state 911 telephone network outage by geographic area or telephone exchange. Authorized officials may provide alternate phone numbers in which to reach 911 or dispatch personnel.

Nuclear Power Plant Warning (NUW) — A warning of an event at a nuclear power plant classified such as a Site Area Emergency or General Emergency as classified by the Nuclear Regulatory Commission (NRC). A Site

Area Emergency is confined to the plant site; no off-site impact is expected. Typically, a General Emergency is confined to an area less than a 10-mile radius around the plant. Authorized officials may recommend evacuation or medical treatment of exposed persons in nearby areas.

Radiological Hazard Warning (RHW) — A warning of the loss, discovery or release of a radiological hazard. Examples include: the theft of a radiological isotope used for medical, seismic or other purposes; the discovery of radioactive materials; a transportation (aircraft, truck or rail, etc.) accident which may involve nuclear weapons, nuclear fuel or radioactive wastes. Authorized officials may rec-

ommend protective actions to be taken if a radioactive hazard is discovered.

Shelter in Place Warning (SPW) — A warning of an event where the public is recommended to shelter in place (go inside, close doors and windows, turn off air conditioning or heating systems, and turn on the radio or TV for more information). An example is the release of hazardous materials where toxic fumes or radioactivity may affect designated areas.

Volcano Warning (VOW) — A warning of current or imminent volcanic activity. Authorized officials may recommend or order protective actions according to state law or local ordinance.



GET IN ON THE ACTION... ON OR OFF THE FIELD.

Matrix Portable:

Delivering the sound of the coin toss to listeners around the world is as simple as pressing a button. Only the advanced Comrex Matrix POTS codec delivers the highest quality audio and superior connection reliability over both standard wired and GSM wireless phone connections. Our road-proven design and construction, plus ease of operation and real-world features, make Matrix your best choice for all your POTS and ISDN remotes. The results? Your listeners hear the collision, the grunting, the exhale... and the sound of victory.



Matrix Rack:

Sure all the action is in the field, but a great remote needs a great home base. And there's nothing better than the Matrix Rack. It's compatible via POTS and ISDN with ALL Comrex codecs as well as those from nearly everyone else. Perfect for receiving those calls from the field. Make the Matrix Rack the center of communications for ALL your remotes.

Grab your audience by the ears and give them the full experience—not just a story.

Doing a remote? Put Comrex on the line.

COMREX

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

Stations Cope With Hurricane Season *Recording*

by Naina Narayana Chernoff

WASHINGTON Engineers in the part of the country prone to hurricanes must cope with unforeseen problems in storm season, though well aware of the challenges of staying on the air.

Hurricane Charley presented the first such considerable challenge this year for broadcasters from North Carolina to Florida. In mid-August, the hurricane traversed the central Florida peninsula, moved back into the Atlantic and came ashore again in South Carolina.

The hurricane destroyed homes, caused \$7.4 billion worth of insured losses, according to one estimate, and was blamed directly for 10 deaths in the United States, according to the National Weather Service.

"It was a lot of damage for a Category 1 hurricane," said Tim Nelson, chief engineer of five stations owned by Cumulus Broadcasting in Wilmington, N.C. "We came out of the storm in good shape, but it was worse than I thought it was going to be."

In Wilmington, N.C., residents and businesses went without electrical power for two days. The fierce winds tore off part of the siding of Cumulus Wilmington's studio building, leaving its roof exposed, according to Nelson. The studio, home to five stations — WWQQ(FM), WKXS(FM), WAAV(AM), WGNI(FM) and WMNX(FM) — suffered a leak that drowned a 24-channel Mackie console and a 360 Systems Short/Cut editor.

Four of the stations stayed on the air thanks to generators; WKXS does not have a backup generator, Nelson said. He was able

to salvage a computer with digital editing equipment contained in the studio. He had to replace the console.

Until hurricane season ends in November, Martin said he'll follow the same plan he has always followed, which calls for putting all transmitters on backup generators if it looks like the area will be hit with hurricane-force winds. He also checks on the fuel level of generators at the beginning on each hurricane system and after each harsh weather



Reception area of Clear Channel's Punta Gorda, Fla. stations after Hurricane Charley. One control room was left undamaged to run all five stations: WKII(AM), WIKX(FM), WCVU(FM), WCCF(AM) and WBCG(FM).

event, makes sure the levels are topped off.

During Charley, "we really came out of the storm in good shape," he said. "All in all, we were pretty prepared."

Engineers had to be prepared this year. By late September, the Southeast also had dealt with Hurricanes Frances, Ivan and Jeanne, all of which resulted in deaths and damage.

Keys to survival

Preparation is the key to surviving any hurricane, experts say.

"Staying on the air is not a problem if you have the time and resources," said

Buddy Wommack, chief engineer of Cumulus Myrtle Beach, S.C. Wommack, a part-time consultant for Cumulus, is responsible for seven stations. "Just because the power goes out is no excuse."

During the weekend that Hurricane Charley hit Myrtle Beach, all seven stations went off power for some amount of time. Wommack said he faced serious problems with two backup generators. One at WDAI(FM) had coolant leaking from it, another at WSYN(FM) had a battery charger system that did not work.

Three other Cumulus stations — FMs WYAK, WSEA and WJXY — all went off the air after the T-1 line that sends the stations' audio to the transmitters went down. The stations were off the air for three to four hours until the local phone company, HTC, fixed the problem, Wommack said.

Also, two stations, WXJY(FM) and WIQB(AM), both came back on air after Wommack troubleshooted at the sites and dried out flooded transmitters. Although no equipment needs to be replaced, Wommack said he was working to fix all of the transmitters and generators.

Because of his part-time schedule, Wommack said it's difficult for him to make sure each station is prepared for hurricanes. He tries to solve problems quickly by having spare parts on hand. "Every transmitter has a personality, and you become aware of which parts tend to blow."

To fend off further damage, Wommack also keeps up with maintenance of each site. And he keeps a constant watch on the weather forecast. "The minute they say there's a good possibility (a hurricane) will turn toward Myrtle Beach, I'll treat it as if it's coming right for us." rw-hurricane 2

Wommack has experienced the worst of the worst before — he was an engineer for several stations in 1989 during Hurricane Hugo, which is considered the strongest storm to strike the East Coast north of Florida since Hurricane Hazel in October 1954. 🌪

► Continued from page 5
subpoena demanding a copy of a broadcast for evidence in private litigation? How about a criminal prosecution?

What if in seeking a change in venue, a defense attorney demanded a copy of "everything you broadcast about John Doe" to help show prejudicial publicity? What would stations' exposure be to copyright infringement claims for recording and retaining copyrighted material like live and pre-recorded syndicated programs, and programs containing copyrighted material such as musical performances? The tangle of legal rights and claims would make many a lawyer salivate with anticipation.

Crigler: A clever attempt to persuade me that there's something good about this proposal — at least for the lawyers. Well, it won't work. I think it's crazy to require broadcasters to record hundreds of millions of hours of programming each year in the hope of bagging a few more minutes — or seconds — of indecent material.

That effort is particularly ironic in light of the fact that the commission works hard to keep the definition of "context" as narrow as possible.

King: This raises the interesting notion whether, in its own interest, a station might — unbeknownst to the public or the FCC — keep recordings of, say, its morning zoo, just to arm itself in the event of a context face-off with the commission. Of course, that sword is double-edged, and it could hurt.

But isn't a broadcaster's individual decision to record its programming a better option than an industry-wide government edict?

Crigler: Although the FCC has said that "context" is critical to any indecency determination, it has used context only for the very narrow purpose of determining whether the material in question has a sexual or excretory meaning. It has not used context to evaluate the broadcaster's reason for broadcasting the material, or the artistic or social merit of the work, or the nature of the program in which the material appears.

So long as the commission's concept of "context" is this narrow, there's little reason to have a recording of entire programs.

In addition, the current complaint process assumes that the facts stated in a complaint are correct unless the broadcaster refutes those facts. Broadcasters with high-risk formats thus already have a strong incentive to record programs.

A recording is probably the only practical way of proving that the station aired an edited version of a suggestive song or that it effectively bleeped offensive language in a tape-delayed live performance. For these stations, the requirement is redundant.

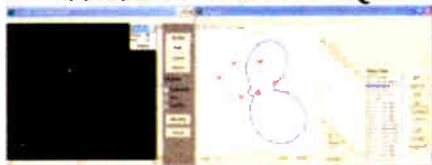
King: And duplicative. Now let's play this back . . .

Reach the authors at jking@gsblaw.com and jcrigler@gsblaw.com.

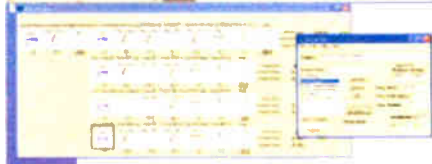
Radio World welcomes other points of view to radioworld@imaspub.com. 🌪

Kintronic Labs, Inc

KINTRONIC LABS IS SERVING THE AM/MW ANTENNA SYSTEM MARKET WITH STATE-OF-THE-ART EQUIPMENT FOR THE DIGITAL TRANSITION WORLDWIDE.



**ENGINEERING DESIGN
USING OUR IN-HOUSE
SOFTWARE TOOLS**



**HIGHLY QUALIFIED
ENGINEERING SUPPORT**



**FAST REACTION
PRODUCTION STAFF**



**ACCURATE NETWORK
PRE-TUNING FACILITIES**

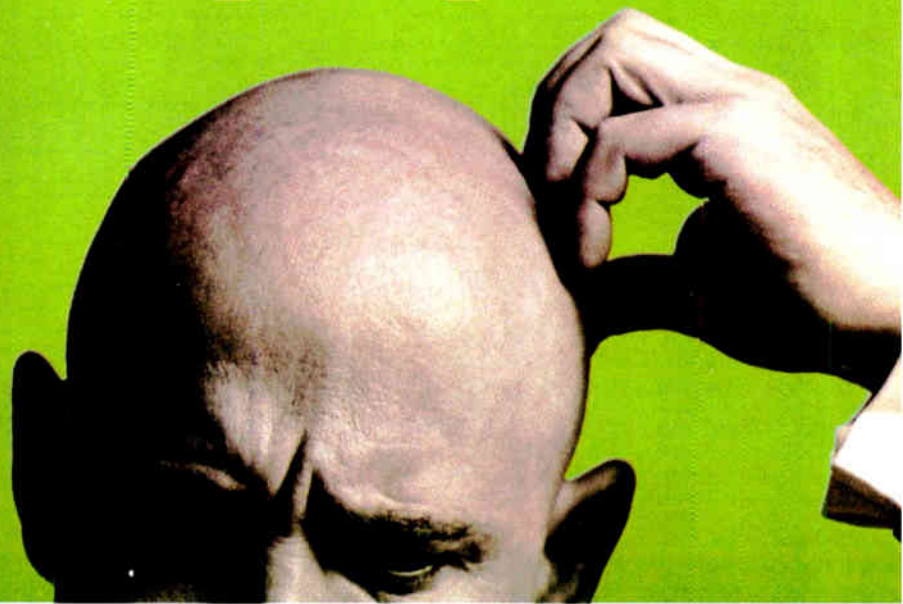


WE ARE MAKING DIGITAL RADIO A REALITY NOW! CONTACT US TODAY.

Phone: (423) 878-3141 Fax: (423) 878-4224 Email: ktl@kintronic.com Web Site: www.kintronic.com

Wish you had more

up top?



Announcing Omnia-6EX.

There's a lot of buzz about the new HD Radio codec. We've heard it and agree with the many others who like it and say it's now time to get on with radio's transition to digital.

Because HD Radio can transmit audio frequencies up to 20kHz, listeners will finally be allowed to hear the full CD spectrum – if their radio stations choose the right on-air processor. On this point, you should know something important: Some "HD" processors simply hack off everything above 15kHz... robbing listeners of the full HD Radio experience and keeping our industry in a fidelity backwater.

The new Omnia-6EX won't short-change your listeners. We've built Omnias with sampling rates of 48kHz and higher from the start. All along, we've needed the sampling headroom to keep analog FM audio grunge-free. Now it's essential for HD Radio. Even if some listeners wouldn't notice the missing high frequencies, there's a fair chance they would hear a sharp 15kHz low-pass filter operating within HD Radio's codec range.

Omnia-6EX is also full of processing enhancements that result in yet more bass punch, yet more voice clarity, than the original Omnia-6. A sound so powerful and free of artificial constraints, you'll crave it for your station the first time you hear it.

More than 50% of the US' Top 100 FM stations have already upgraded to Omnia. Maybe you're next?



The new Omnia-6EX has enhanced processing for analog FM, and is ready for HD Radio with a second limiter section and digital output. Both FM and HD limiters and outputs are included as standard.

Omnia
A Telos Company
omniaaudio.com

EVSS

▶ Continued from page 1

groups oppose the proposed service, claiming it would interfere with local stations and potentially override Emergency Alert System messages (RW, Mar. 28, 2004).

Only one company has a request before the FCC for Special Temporary Authority to test its system.

Fall, summer tests

Safety Cast Corp. applied for the STA in early 2003 to test its EVSS technology in Jacksonville, Fla.

The FCC dismissed Safety Cast's application "for our choice of frequency for our antenna field testing," according to Robin Wilson, vice president of marketing for Safety Cast.

The company has asked the commission to review the decision and the application is still pending.

"The FCC is moving at its own pace, which is not a surprise. We are still optimistic and confident we have a product that is important to public safety. We are exploring all options right now," said Wilson.

Another company developing this type of device, ADiCorp, petitioned the FCC in 2003 to make changes to Parts 2 and 90 of the rules to allow emergency vehicle warnings be transmitted over AM and FM broadcast signals. However, it filed a motion in late March to "suspend, or in the alternative, dismiss without prejudice" its Petition for Rulemaking, "in

order to permit ADiCorp to perform tests of its Emergency Vehicle Signaling Service technology."

"We believe these services should be allowed right now under current FCC rules. There are so many rules that con-

moves to allow for lower power levels in dense residential areas," Katano added.

ADiCorp has said power levels for its Radio Alert Transmitter would fluctuate between 15 and 45 milliwatts, depending on the speed of the emergency vehicle.

Katano said AlertCast's mobile transmitter includes software programmed with a GPS, "which allows our transmitter to attenuate power based on the proximity to each radio stations' antennas," Katano said.

The Society of Broadcast Engineers and NAB filed comments on ADiCorp's Petition for Rulemaking this spring voicing concern with how EVSS works. Both groups believe the service would set a dangerous precedent and further damage spectrum integrity.

The NAB noted in its comments on ADiCorp's petition that the FCC set aside 5.9 GHz for Dedicated Short-Range Communications in the Intelligent Transportation System in February and that authorizing another service for motor vehicle notification would be redundant.

Kelly Williams, senior director of engineering and technology policy for NAB, said, "We are concerned with the potential for this technology to cause interference and want to see some test data before we go any further."

Public safety agencies had filed the vast majority of favorable comments to ADiCorp's request for rulemaking to implement EVSS before the company withdrew the petition, according to the FCC.

We are concerned with the potential for this technology to cause interference and want to see some test data before we go any further.

— Kelly Williams, NAB

ADiCorp hired an engineering firm to begin tests on its Radio Alert Transmitter unit in Canada this summer. Testing was expected to continue into the fall. The company expected to re-file its petition and submit its test results with the FCC by early November.

"We should be able to answer about 95 percent of the NAB's interference concerns by then. We spent the past six months redesigning the product. I think (NAB) will be pleased with the changes," said Tom Macone, president of ADiCorp's emergency alerting division.

Macone said the redesigned unit scans consistently for EAS messages to avoid inadvertently covering them up and also addresses anti-theft issues.

Meanwhile, a third company, AlertCast International, says it is watching developments closely but has no plans to approach the FCC again. The commission in 2003 rejected AlertCast's request for an experimental license to test its transmitter unit in Chico, Calif.

tradict each other ... it's very confusing," said Howard Katano, president of AlertCast International.

AlertCast's limited testing, Katano said, indicated a number of variances and requirements needed to develop a successful emergency vehicle signaling product.

Power levels adjusted

"Power levels will depend on terrain, buildings and even atmospheric conditions. We have to figure out how much power would be needed to override a signal within a certain distance of its antenna. That is why we need the FCC to allow us to do further testing," Katano said. He added the transmissions are sent via a signal that reaches 360 degrees around a public safety vehicle and could reach up to 1,000 feet.

All three companies say their services will interrupt radio broadcasts and affect both mobile receivers and fixed radios in residences or businesses.

"It's a power issue. Our system can attenuate power and adjust it as it

New Features Now Available!



FMB80

R-D-S encoder

RADIO DATA SYSTEM

The standard!



The encoder that never stops evolving...

- New Song titles and artist information can be automatically wrapped around with text
- New Text can be centered, customized and configured through a new HTML web page
- New An internal scheduler can display messages at user specified times of day

Call now to get your free firmware version & upgrade your FMB80 via FTP!

www.audemat-aztec.com - North Miami Beach, FL USA: tel: +1 (305) 692 7555
 fax: +1 (305) 682 5533 - ussales@audemat-aztec.com

AM/FM Mobile metering - AM, FM & TV Air monitoring - Remote Control

◆ NEWS WATCH ◆

Services for Blind Support IBOC ...

ROANOKE, Va. The International Association of Audio Information Services, which represents radio reading services for the blind, has made it official; it supports IBOC. In a resolution adopted by the IAAIS board, the groups states: "The HD Radio system promulgated by Iqity Digital Corp. has the potential to provide for the needs of IAAIS members and listeners."

The American Council of the Blind is backing the IAAIS position, according to Dave Noble of the IAAIS.

The IAAIS is enthused about HD Radio because of its promise of audio fidelity over analog subcarrier transmissions. It supports and promotes the design and manufacture of fully accessible consumer radios.

"IAAIS will support, promote and actively collaborate with any organization, manufacturer or consumer advocacy group, which seeks to obtain the same ends as IAAIS, and which does nothing to limit the future growth, accessibility and availability of broadcast-delivered information access services," states the group in its resolution.

IAAIS supports the Tomorrow Radio Project, with the goal of reading services being included in sup-

plementary digital channel offerings. IBOC chip makers say they are building such capabilities into chips to be incorporated into future IBOC radios. This way, reading services could be received on an IBOC radio, and current SCA receivers would be phased out.

The group says the promise of digital radio means reading services could someday be heard via the digital supplemental audio channels of commercial stations, in addition to non-commercial stations, and their services could be delivered in ways other than radio, such as direct data feeds to MP3-style recorder-players.

... And So Does RAB

NEW YORK Salespeople like IBOC. At least, their industry association does. The Radio Advertising Bureau board of directors passed a resolution at its meeting in September praising terrestrial digital radio technology. In the resolution, the board "recognizes the efforts of all radio broadcasters employing IBOC high-definition radio."

RAB encourages these broadcasters "to educate their listeners on the benefits of the new digital sound."

The bureau says it has nearly 7,000 members, including about 6,000 stations.

Commander G3

Modular Stereo POTS • ISDN • GSM Codec

Introducing the new Tieline Commander G3

At Tieline, we've taken a fresh approach to audio codec design. Now you can customize your audio codec to suit your exact needs for remote broadcasts and STLs. You only pay for what you need and we're the first to be compatible with most major ISDN and POTS codecs in your rack.

Think of the new Commander G3 as a codec foundation with two expansion slots which accept your choice of POTS, ISDN and GSM modules. You simply buy what you need.

For example, if you need a mono 15kHz POTS codec, simply buy the Commander G3 with a POTS module for one low price. Need 15kHz Stereo or dual mono over POTS? Just add another POTS module.

If you're looking for a mono/stereo ISDN codec without POTS, you can buy a Commander G3 with an ISDN module only. It comes with G.711, G.722, and Mpeg Layer 2. Tieline's "Music" algorithm also delivers an astounding 15kHz stereo over a single ISDN B channel! You can always add a POTS or wireless GSM module later if you need.

Need a stereo ISDN STL with automatic failover to 15kHz mono POTS? Buy the Commander G3 with POTS and ISDN modules plus Tieline's new Freedom Failover software kit.

Plug in the GSM module and deliver up to 7.5 kHz over GSM networks and up to 15 kHz over HSCSD wireless networks.

Control your remote talent's mic input gain from the studio and send simultaneous audio, serial data and relay activation in either direction

We've even created digital matrix router software which enables you to cue audio off air, create a local audio intercom, and talkback to the studio all without interrupting your broadcast.

The new Tieline Commander G3 is simply the world's most powerful, flexible and customizable codec. It's even compatible with your Comrex** Vector, Matrix, Blue and Musicam Liberty POTS codecs.

Every Tieline codec comes with a two year warranty plus the support of an experienced engineering team with more than 25 years in the broadcast industry right here in Annapolis. That's why hundreds of stations, major radio groups and networks across America use Tieline to deliver audio every single day.

Hurry, free demonstration Commander G3's are limited. Call your favorite broadcast dealer or call us at 800-750-7950 to book your free demo.



Tieline
TECHNOLOGY

** Comrex and Musicam are registered trademarks of each respective corporation

800-750-7950

www.tieline.com/rw

World Radio History

Radio Sports: Another Format at Risk?

Once a Revered Part of Radio Broadcasting, Sports May Be the Next Lost Format

by Skip Pizzi

For sports fans, this time of year is a favorite: Post-season baseball, pro football, college football and the brisk autumnal season converge to produce perhaps the best of all possible sporting spaces.

Of course, most of the audience for such events experiences them remotely, via broadcasting, rather than in person. Radio and television have built a significant part of their franchises on the carriage of sports. The immediacy of broadcasting — and in particular, the portability of radio — makes live sports perhaps the perfect content type for the medium.

Sadly, this may no longer be the case, as yet another format is challenged by competing media, and radio seems unable to answer the call with any viable defense. Live sports are no longer a safe content haven for broadcasters.

Not a level playing field

Sporting events are almost always appointment listening, which is quite different than most other radio use. So unlike a "let's tune around and see what's on" approach, the sports listener is bent on finding a specific program at a specific time.

Finding that sporting event you want to hear on the radio is a challenge today. While digital TV has added handy navigation features like electronic program guides (EPGs) and search capabilities, locating a particular broadcast on the radio remains a chance exercise.

In many cases a frequent radio sports listener will just know what stations usually carry particular teams' games based on contractual arrangements; but even these seem to change in the radio business with far greater frequency of late than in the past, and they certainly are less stable over time than equivalent arrangements in the television industry.

Also, not all of a particular team's games may be covered by a given rights deal, so even if you know the local radio station (or stations) involved, there is still an element of randomness in finding the game you want, when you want it. And of course, when traveling, even compre-

hensive knowledge of your home market's affiliations won't help you find a game on the unfamiliar airwaves of a distant city.

Today, many avid sports fans seek out their favorite events primarily on TV, and only resort to the radio when they have to due to work schedules or other obligations. For these infrequent radio sports listeners, the experience of finding a game that they know is on TV, and *may* be on the radio somewhere, is terribly frustrating.

There is little effective help for such seekers, since radio program listings in the newspaper are not consistent or comprehensive, and the seek/scan feature on radio receivers may skip over weaker stations where the game is carried — particularly for AM, where much sports broadcasting airs.

This is more than just an inconvenience to listeners; it's a way to lose audience permanently.

The truly driven fan may resort to a full-blown, manual frequency scan of the AM dial, which is time-consuming and generally leaves one feeling as if they've been temporarily transported to the 1930s — especially if the desired sporting event is never found. (Such a dial search also provides the fringe benefit of hearing all known types of audio interference in rapid succession, something about as pleasant as fingernails on a blackboard.)

Often an unsuccessful search occurs simply due to a corollary of Murphy's Law, which states that an ad break will be running every time you tune to the station actually carrying the event you seek. Universally available radio metadata could solve this problem; but alas, we aren't there yet.

Finally, even if you find the event you're looking for, its audio quality generally is far from state-of-the-art.

Production equipment on site is constrained, and backhaul paths often are bandwidth limited. Given that most of these feeds end up on AM broadcasts, and many on relatively low-power stations, this adds up to a pretty low-fi experience for the listener.

Meanwhile, TV sports audio is almost always in stereo or matrixed surround, and now often offered in full 5.1 discrete surround on some DTV broadcasts.

I can recall a time a few years back where there was much talk and some action on improving audio quality in radio sports broadcasts. Although some exceptions exist today, this has certainly not caught on as a broad trend. So as audio quality continues to improve for TV sports, it seems to be moving in the opposite direction on the radio.

Game over

In the digital media age, this is more than just an inconvenience to listeners; it can be a way for broadcasters to lose

audience permanently.

Unlike earlier times when radio was the only way to hear live sports, today several alternatives exist, and the number of options is growing. Fans can hear live audio coverage of their favorite sporting events via satellite radio, various Internet portals and mobile phones — yes, mobile phones: Witness the deal recently inked by Sprint PCS for live audio from Major League Baseball games.

Unlike broadcast radio, most of these services are not freely provided, but for serious sports lovers a nominal fee per event (or even a monthly or season-long subscription) may not be an untenable obstacle — and such services typically are presented without commercials. Audio quality also may not be terrific, but it's certainly no worse than the average terrestrial sports broadcast's fidelity in most cases. (In the case of mobile

The Big Picture



Photo: Gary Hayes, BBC

by Skip Pizzi

phone delivery, lower audio fidelity also may not be perceived as much of a problem when the receiver is a telecom device rather than a radio.)


Perhaps more important, however, is the ability to find the desired program in the first place. Consistency of service via channel or site, and easy navigation to specific events via guides and metadata make for a far more pleasant consumer experience.

Another part of the convenience provided by these services (which radio is unlikely to ever match) is the access to more content than local broadcaster will air — extending even to all out-of-market games in many cases. With the ever-increasing mobility of Americans, the ability to hear your former home's local pro or college teams' games in your new market, with no blackout rules, has substantial appeal.

It doesn't seem likely that broadcasters can do much to stop this tide. Nothing on the horizon looks helpful, with the exception of RBDS or IBOC metadata to note the game in progress while tuning, or to raise a Sports flag for somewhat improved searching.

One new feature that seems to be heading the opposite direction, in fact, is the long latency of IBOC, which will have particularly negative impact on sports broadcasts. Ibiquity has proposed a "ballgame mode" to eliminate delay in the analog signal; but this means that broadcasters will have to choose between synchronizing their analog signals to real time or to their digital signals.

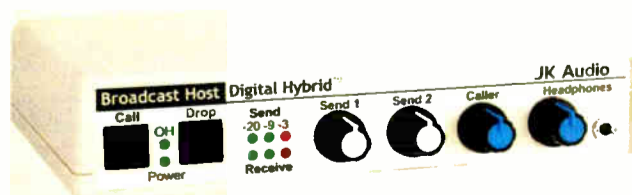
Unless broadcasters can change the score soon, there may be no contest: Broadcast sports listeners will be playing ball in another court.

Skip Pizzi is contributing editor of *Radio World*. 

"The Perfect Connection"

Manufactured with pride in the USA. 

JK Audio



Broadcast Host – Desktop Digital Hybrid
For details go to www.jkaudio.com

The JK Audio Broadcast Host digital telephone hybrid, teamed with the Broadcast Tools® TeleSwitch 6 six-line call director, provide everything you need for a high-quality, 6-line broadcast telephone system.

FREE call screener software, TeleSwitch 6 connection cables and instructions included.

Contact Your Broadcast Equipment Supplier Today and Ask for a Package Quote!

BROADCAST tools inc.



TeleSwitch 6 – Six-Line Call Director
For details go to www.broadcasttools.com

The routing switcher gets a new twist.

(About five twists per inch, actually.)

Everybody needs to share audio. Sometimes just a few signals — sometimes a few hundred. Across the hall, between floors, now and then across campus. Routing switchers are a convenient way to manage and share your audio, but will your GM really let you buy a router that costs more than his dream car? Unlikely.

If you need a routing switcher but aren't made of money, consider Axia, the Ethernet-based audio network. Yes, Ethernet. Axia is a *true network*. Place our audio adapter nodes next to your sources and destinations, then connect using standard Ethernet switches and Cat-6. Imagine the simplicity and power of Ethernet connecting any studio device to any other, any room to any other, any building to any other... you get the idea.



Routers are OK... but a network is so much more modern. With Axia, your ins and outs are next to the audio, where they belong. No frame, no cards, no sweat.



Put an Axia Microphone Node next to your mics and send preamplified audio anywhere you need it, over Ethernet — with no line loss or signal degradation.



Scott Studios



Axia is already working with some great companies. Like Enco Systems, Prophet Systems, Scott Studios, Radio Systems, Balsys Technology Group, and of course Telos and Omnia. Check AxiaAudio.com/partners/ to find out who's next.

Scalable, flexible, reliable... pick any three.

An expensive proprietary router isn't practical for smaller facilities. In fact, it doesn't scale all that well for larger ones. Here's where an expandable network really shines. Connect eight Axia 8x8 Audio Nodes using Cat-6 cable and an Ethernet switch, and you've got a 64x64 routing switcher. And you can easily add more I/O whenever and wherever you need it. Build a 128x128 system... or 1024x1024... use a Gigabit fiber backbone and the sky's the limit.



Put your preamps where your mics are.

Most mainframe routers have no mic inputs, so you need to buy preamps. With Axia you get ultra-low-noise preamps with Phantom power. Put a node in each studio, right next to the mics, to keep mic cables nice and tight, then send multiple mic channels to the network on a single Cat-6 cable. And did we mention that each Mic Node has eight stereo line outputs for headphones? Nice bonus.

With a little help from our friends.

A networked audio system doesn't just replace a traditional router — it *improves* upon it. Already, companies in our industry are realizing the advantages of tightly integrated systems, and are making new products that reap those benefits. Working with our partners, Axia Audio is bringing new thinking and ideas to audio distribution, machine control, Program Associated Data (PAD), and even wiring convenience.

Are you still using PC sound cards?

Even the best sound cards are compromised by PC noise, inconvenient output connectors, poor headroom, and other gremlins. Instead, load the Axia IP-Audio Driver for Windows® on your workstations and connect *directly* to the Axia audio network using their Ethernet ports. Not only will your PC productions sound fantastic, you'll eliminate sound cards and the hardware they usually feed (like router or console input modules). Just think of all the cash you'll save.

Put your snake on a diet.

Nobody loves cable snakes. Besides soldering a jillion connectors, just try finding the pair you want when there's a change to make. Axia Audio Nodes come in AES/EBU and balanced stereo analog flavors. Put a batch of Nodes on each end of a Cat-6 run, and BAM! a bi-directional multi-channel snake. Use media converters and a fiber link for extra-long runs between studios — or between buildings.

Would you like some control with that?

There are plenty of ways to control your Axia network. For instance, you'll find built-in web servers on all Axia equipment for easy configuration via browser. PathfinderPC® software for Windows gives you central control of every audio path in your plant. Router Selector nodes allow quick local source selection, and intelligent studio control surfaces let talent easily access and mix any source in your networked facility.

Livewire



<...> 100/1000

There's a better way to get audio out of your PC. No more consumer grade "k" connectors — with Axia your digital audio stays clean and pristine.



An Axia digital audio snake can carry hundreds of channels of digital audio on one skinny CAT-6 cable. We know you're not going to miss soldering all that multi-pair...



Control freaks of the world, rejoice: intelligent Axia mixing surfaces give talent complete control of their working environment. Reconfigure studios instantly and assign often-used sources just where they're most useful.



"This sounds expensive." Just the opposite, really. Axia saves money by eliminating distribution amps, line selectors, sound cards, patch bays, multi-pair cables, and tons of discrete wiring — not to mention the installation and maintenance time you'll recover. And those are just side benefits: our hardware is about half the cost of those big mainframe routers. That's right... *half*. Once you experience the benefits of networked audio, you will never want to go back. AxiaAudio.com for details.



Axia products are available in the USA from Broadcasters General Store and Broadcasters Supply Worldwide. See www.AxiaAudio.com for more information. © 2014 US Corp. All rights reserved. Axia is a trademark of US Corp. All other trademarks and likenesses are property of their respective owners.

Clear Channel Reduces AM Bandwidth

Littlejohn Says It's 'the Right Thing to Do' for AM; Calls on Industry to Do the Same

The following was e-mailed to Clear Channel Radio engineers by Jeff Littlejohn, senior vice president of engineering, on Sept. 29. It is reproduced with permission.

by Jeff Littlejohn

Good afternoon everyone,

Over the past couple of years, I've spent some time doing IBOC testing to determine its impact on the AM band. One such test was conducted in

Cincinnati at WLW and in New York City at WOR.

During those tests, we limited both stations to 5 kHz audio bandwidth and then turned on and off the IBOC carriers at 1-minute intervals. I happened to be flying home the night of the tests, so I was not able to go to the transmitter site, but I did tune in on the drive home from the airport. The result was pretty interesting!

When I tuned to 710 AM, I heard WOR(AM)'s skywave crystal clear!

Never in the dozen years of living in Cincinnati had I heard WOR's skywave signal. It had always been obliterated by the sidebands of WLW.

Next, I tuned to WLW 700. I couldn't perceive any audible degradation by limiting the audio to 5 kHz.

Suddenly it struck me that radio had lost the battle that was fought in 1987 through 1991. That was the time period when we argued with the CEA, NAB and NRSC about a couple of new AM audio standards, NRSC-1, NRSC-2 and NRSC-3.

I remember complaining about how much limiting our audio sidebands to 10 kHz was going to degrade the performance of AM. NAB wanted to retain 15

kHz audio, CEA members wanted us to reduce our audio bandwidth to 5 kHz. In the end, we settled on 10 kHz audio and later the FCC adopted the standard as the new bandwidth requirement.

Why?

The goal of NRSC was laudable and was intended to result in wider bandwidth receivers (remember the AMAX standard?) but the fact is that nobody ever made more than a handful of these wider bandwidth receivers. Instead, in response to customer complaints about AM interference, the receiver manufacturers continued to reduce the audio bandwidth of AM receivers to eliminate the "chatter" caused by the sidebands of adjacent channels.

Logitek Brings Large Console Flexibility to small workspaces



Remora-10 console at Cache Valley Broadcasting, Logan, UT



You don't need to settle for less when designing small on-air or production rooms.

Logitek's Remora Digital Console brings you all the flexibility of larger consoles in a very small footprint. As a control surface for our Audio Engine digital router, the Remora offers you access to all inputs and outputs on the Audio Engine, multiple mix-minus busses, dedicated talkbacks, and more. Remora consoles give you fast, convenient tabletop installation—no need for cutouts or custom furniture designs. And, its attractive full color displays plus stereo LED meters give you all the information you need at a glance.

Try the Remora as a companion to our popular Numix console or on its own. You'll soon see why Logitek's Console Router Systems make sense for your facility.

Logitek Electronic Systems, Inc.

5622 Edgemoor, Houston, TX 77081 USA 713.664.4470 800.231.5870 www.logitekaudio.com ©2003 Logitek Electronic Systems, Inc.

Possible Remora Configurations

Remora-4: four faders with controls for input assignment, monitors, and console functions

Remora-10 (shown): addition of six-fader module brings additional mixing capability with another stereo LED meter

Remora-16: incorporates Remora-4 base unit with two 6-fader modules

Remora-22: incorporates Remora-4 base unit with three 6-fader modules

Logitek
Console Router Systems

'This change has nothing to do with HD Radio. It's the right thing to do for AM analog radio service.'

The result is that an "above average" receiver today has audio response that is less than 4.5 kHz. In fact most have audio response that is down 10-12 dB at 5 kHz — and the rolloff can start at around 2 kHz.

As far as I am aware, there is only one commonly manufactured radio that has more than 4.5 kHz audio bandwidth, the GE SuperRadio (in Wide Band mode); that one is good to about 6 kHz before it's significantly rolled off. These results were confirmed by tests conducted under a study by ATTC.

So ask yourself: "Why do we broadcast 10 kHz audio on the AM band if nobody can pick it up?"

The only reasons I can find to maintain 10 kHz audio bandwidth is that "It's the way we've done it for the last 12 years."

There are a couple good reasons to reduce our AM bandwidth to match the bandwidth of the available receivers:

1. Increased modulation efficiency. By eliminating the broadcast of the high-frequency energy, we can increase the amount of energy that is in the 20 Hz to 5 kHz region. Let's not forget that due to pre-emphasis, higher frequencies are boosted and will have a more profound effect on total modulation than lower frequencies will.

2. Reduced interference to first-adjacent frequencies (WOAI-1200 in San Antonio interferes with KFXR-1190 in Dallas; WHP-580 in Harrisburg interferes with WTNT 570 in Washington, DC).

3. AM modulation that falls outside of a receiver's usable bandwidth ends up increasing the noise floor within the audible bandwidth.

Given that I can find no good reason to maintain 10 kHz audio bandwidth and
See BANDWIDTH, page 15 ►

Bandwidth

► Continued from page 14

that there are substantive benefits to our reduction of audio bandwidth to match the pass band of AM receivers, I want to institute a Standard Operating Practice for all Clear Channel AM stations.

New SOP

Beginning as soon as the next time you go to the AM transmitter site, the following SOP should be put into place.

- For all AM stations operating with modern audio processors — Orban 9200, Omnia 4.5, Omnia 3, Omnia 3 CC — we will reduce our audio bandwidth: to 5.0 kHz audio bandwidth for all AM stations except music-intensive AM stations, and 6.0 kHz audio bandwidth for AM stations with a music-intensive format.

- For stations that do not currently have a modern audio processor that is capable of this reduction in audio bandwidth, we will give favorable review to any request for a replacement audio processor. This doesn't mean you'll get it, but it's likely.

It is true that AM HD Radio is going to require that we reduce our audio bandwidth to 5 kHz in order to properly implement that technology; and we're making serious efforts to implement AM HD Radio at our stations over the next couple of years.

However, this change has nothing to do with HD Radio. It's the right thing to do for AM analog radio service. HD Radio just happened to point out that the benefit existed.

The result of our change will be more competitive AM analog modulation (without the necessity of increased audio processing) and reduced interference to our neighboring stations.

As the co-chairman of the AM Subcommittee of the NRSC, I am proposing this standard practice among all AM licensees. But for today, Clear Channel will be the leading the charge in this effort to clean up the AM analog service.

Thanks for all your help in this effort. Please feel free to ask questions if you have them.

Jeff Littlejohn

Littlejohn also e-mailed a copy of this internal memo to engineering executives of other leading radio groups and asked for their support on this matter at the pending NRSC meeting.

"While HD Radio will make a big impact in improving the profitability of the AM band, it will take a long time to implement and even more time to change out the 800 million receivers that exist today," he wrote to his colleagues. "This suggested change will not improve the audio quality of AM analog, but it will drastically decrease the interference that each of us generates toward the other and may help our listeners 'bridge the gap' to HD Radio.

"I realize that this idea may be too radical for some. I realize that others will simply disagree with the idea. If that is the case, I certainly respect your opinion. However, I believe in this strongly enough to implement it today and I hope you will join me."



been responsible for the editorial content and production staff of its daytime programming, and coordinating efforts with affiliates.

John McMullen was named station manager for **Sirius Satellite Radio's** OutQ channel, a full-time channel for the gay/lesbian/transgender community. He continues to host "The John McMullen Show."

Steve Gable was appointed to the position of VP of technology for Clear

ESPN Radio promoted **Pete Ganesini** to senior director of programming. He joined ESPN Radio in 1997, and most recently had

Channel Radio. He had been a solutions architect for the company, and is credited with bringing together Clear Channel's international IT infrastructure and HD Radio deployment.

U.S. pro audio manufacturer **Lectrosonics Inc.** appointed **Karl Winkler** director of business development. He had been business manager for pro audio products at Sennheiser Electronic Corp.

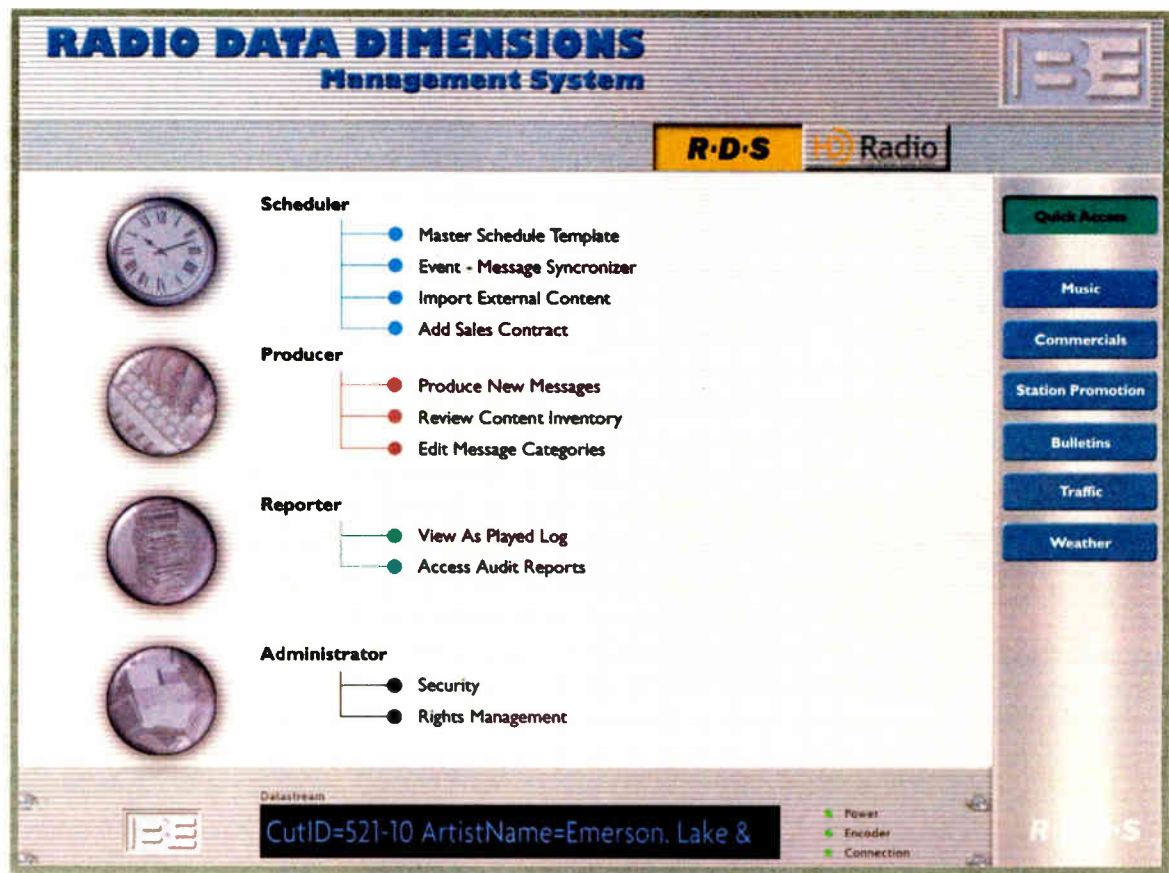
Neil Glassman was named VP for Strategic marketing for Broadcast Electronics. He had been managing director for Cowan Communications.

Richard Cantu, formerly of WBBM(AM) in Chicago, and **Alex Stone**, formerly of KOA(AM) in Denver, joined **ABC News Radio**. Veteran news anchor Cantu hosts the network's hourly newscasts from New York, and Stone broadcasts from

the West coast as a Los Angeles Bureau correspondent. Stone replaces Steffan Tubbs as primary West coast correspondent for ABC News Radio.

Beasley Broadcasting Group promoted **Heather Monahan** to the new position of VP of sales. She had been director of local sales for a five-station cluster in Fort Myers, Fla. ... Additionally, Monahan was chosen as Sales Manager of the Year. **Beasley** named Miami's **Joe Bell** of WKIS(FM) as General Manager of the Year, and **Kid Curry** of WPOW(FM) as Program Director of the Year.

John Grayson left the Rock and Roll Hall of Fame and Museum, where he had been senior donor manager. He is now the director of development at the **Museum of Contemporary Art-Cleveland**.



Radio Data Dimensions: Making radio read and write.

If you're not taking advantage of RDS on your analog FM channel, you may be losing listeners and revenue. BE's Radio Data Dimensions simplifies feeding your station's branding, title and artist information, sponsorship and promotional messages, Amber Alerts, and more. Increase income and listener loyalty using text messages with traffic, weather, or even gas prices from third party providers. Part of BE's Total RDS Program and Data Integration, Radio Data Dimensions puts you in control of today's RDS and tomorrow's HD Radio opportunities in one integrated management suite. Contact BE to put your data to work for you.



Broadcast Electronics, Inc. • 4100 North 24th Street, P.O. Box 3606, Quincy, Illinois 62305-3606 U.S.A.
Telephone: (217) 224-9600 • Fax: (217) 224-9607 • E-Mail: bdcast@bdcast.com

Broadcast Electronics and the BE logo are registered trademarks of Broadcast Electronics, Inc. HD Radio is a registered trademark of iBiquity Digital Corporation.

GUEST COMMENTARY

Manage the Process, Not the Purchase

A Veteran Engineer and Sales Executive Offers Tips on Broadcast Equipment Capital Spending

by Frank Grundstein

We all know that broadcast companies have come of age. No longer part of a mom and pop industry, these firms can and do function as large corporate entities.

Many things have changed dramatically in the way such organizations operate: new ways to program, new ways to sell time, new ways to maximize staff.

But few groups have revised the way they purchase capital equipment. With one notable exception, most are still using the same CAP-X processes that they used when they were single-station ownerships.

Let me review the process as it has existed and, in many cases, still stands.

1. The local station develops a capital requirement list. Usually this list covers only the coming year. There is often little consideration given to planning beyond the immediate future.

2. The individual budgets are sent to the local manager, director of engineering or regional engineers for trimming and compiling.

3. Repeat steps 1 and 2 as necessary.

4. The budget is approved for the next year.

5. The approved budget goes back to

the individual station, where the local chief engineer selects the vendor and makes the purchase.

Now that it is back at the station, the

and other studio gear, the local engineer doesn't buy in enough volume to drive the price down to where it might be if volume were a factor.

With large items, such as transmitters or antennas, you the engineer have a different problem. Competitive bidding is difficult because you are selecting an

annual purchases.

In addition to lower price, you often can get additional concessions such as technical training, extended warranties and shipping. You probably are negotiating these kinds of discounts for computers and other office supplies for which you have much less purchasing leverage.

If you are concerned that you might not be purchasing some of the items because of cash flow issues or contingency plans, you should still negotiate

	Station 1		Station 2		Station 3		Station 14	Station 15			
	Quantity	Cost	Quantity	Cost	Quantity	Cost	Cost	Quantity	Cost	Total Quantity	Total Cost
1 Group											
2 Engineering Capital											
5 Item											
6 Mic Processor	2	\$ 500.00			6	\$ 500.00				8	\$ 7,000.00
7 Air Mic	1	\$ 320.00			4	\$ 320.00	\$ 320.00			5	\$ 3,948.00
8 Prod Mic	1	\$ 320.00			2	\$ 320.00				3	\$ 1,974.00
9 Prod Edit Software			1	\$ 695.00	1					2	\$ 1,390.00
10 Shot Box					1	\$ 3,000.00				1	\$ 15,000.00
11 Phone Hybrid					1	\$ 5,000.00				1	\$ 5,000.00
12 ISDN Codec	1	\$ 4,300.00			2	\$ 4,300.00		1	\$ 4,300.00	4	\$ 34,400.00
13 POTS Codec					1	\$ 3,200.00	\$ 3,200.00			1	\$ 26,600.00
14 Computer Program Logger	1	\$ 795.00	1	\$ 795.00	1	\$ 795.00	\$ 795.00	1	\$ 795.00	4	\$ 11,130.00
15 Delay Line	1	\$ 4,000.00	1	\$ 4,000.00	1	\$ 4,000.00	\$ 4,000.00	1	\$ 4,000.00	4	\$ 58,000.00
16 Phone Editor					1	\$ 2,700.00				1	\$ 2,700.00
17 RPU					1	\$ 5,000.00	\$ 5,000.00	1		2	\$ 35,000.00
18 Microwave System					1	\$ 8,500.00		1	\$ 8,500.00	4	\$ 34,000.00
19 Air Console										1	\$ 17,000.00
20 Headphone Amp					2	\$ 500.00				2	\$ 2,500.00
21 CR Speakers					2	\$ 800.00				5	\$ 4,000.00
22											
23 1 KW Emergency FM transmitter	1	\$ 17,500.00								2	\$ 35,000.00
24 2.5 KW AM Transmitter								1	\$ 22,000.00	1	\$ 22,000.00
25 50 KW AM Transmitter										1	\$ 160,000.00
26 10KW FM Transmitter										3	\$ 168,000.00
27 30 KW FM Transmitter			1	\$ 70,000.00				1	\$ 70,000.00	2	\$ 140,000.00
28 4 bay antenna			1	\$ 17,000.00						1	\$ 17,000.00
29 2 bay antenna										1	\$ 10,000.00
30 3" transmission line			750	\$ 9,000.00				1000	\$ 12,000.00	2100	\$ 25,200.00
31 coaxial switch			2	\$ 4,000.00				2	\$ 4,000.00	7	\$ 28,000.00
32											
33 Total		\$ 27,753.00		\$ 118,990.00		\$ 42,463.00	\$ 13,324.00		\$ 125,595.00		\$ 861,842.00
34											
35											
36											
37											

chief engineer has the chance to affect the purchasing process. Because the chief is diligent, with an eye on the bottom line, he or she probably will bid out the purchases to multiple vendors to try to get the best price.

On items like microphones, processors

item that has specific performance characteristics. Once the vendor realizes that you really want his product (and they always know), the local engineer and even the manager are at a severe negotiating disadvantage. And even if they are the best negotiators, they will only be negotiating for one item.

With this process, the only thing that can be managed is the individual purchase. Groups with large spending potential should be managing the purchasing process.

You need to manage the way you work with your vendors.

Note that I said *vendors*, not *vendor*. Exclusivity is not the key; purchase management is.

Buy smart

Let me suggest another purchasing model that you might use to maximize your spending.

It starts the same way as the old method. You can't cut the local station out of the loop. It is, after all, their need.

But after you have approved the CAP-X, don't just send it back to the local station. Compile a list of each requested item. You will find that you have 30 or 40 of some items. Often these are microphones, voice processors, codecs, phone hybrids and more.

Such quantities easily qualify for many manufacturers' quantity price breaks, which you can then negotiate with the distributor to pass back to you through lower prices. Some smaller manufacturers may even work directly with you for those quantity purchases.

With larger items, such as transmitters, towers and antennas, you have much greater purchasing power than you realize. During normal, non-HD Radio conversion times, the largest transmitter manufacturers in the country sell only about 350 to 400 transmitters domestically. If you are planning to purchase 10 or even five transmitters during the course of the year, you might represent 3 to 5 percent of sales. You can negotiate a much lower price by aggregating your

for the maximum number you might be able to purchase. Just include a penalty clause if you fall short of the number you originally estimated. You will still save money and the vendor might forget to ask for the penalty. You can still manage your cash flow and get the best price.

Benefits to all

With this purchasing plan, everyone wins:

You benefit because your company gets the best price and your local engineer gets the item he wants.

The distributor benefits because he has a better knowledge of where his orders are coming from and when they will appear. He can negotiate better pricing from manufacturers because he can take advantage of large-quantity incentives offered by manufacturers as well as promotions that are offered. He gets better control of his cash flow and inventory management. You also allow him to help you by giving him the knowledge of when you need certain items that periodically become hard to deliver. You enable your distributors to help you get the equipment you need at the prices you want.

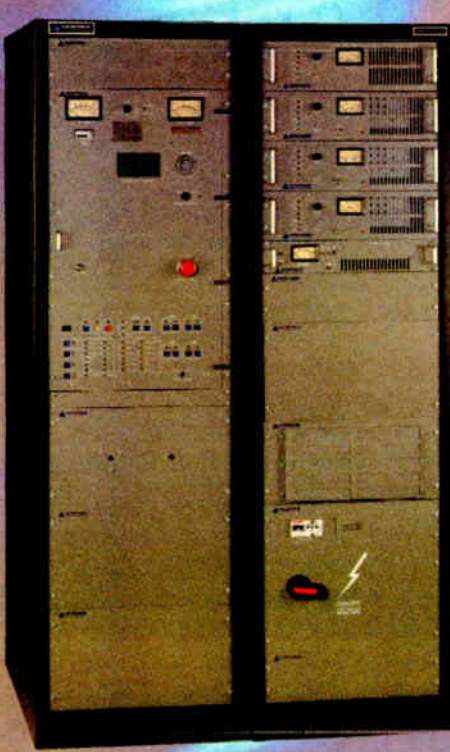
The manufacturers benefit as well. They are able to better manage inventories. They can provide you with items when you need them, not when their production schedules allows.

Transmitter and large equipment manufacturers in particular benefit from this ability to control inventory and demand. They too can take advantage of quantity price breaks from their parts suppliers. Discounts for 50 kW power supply transformers mount up pretty fast, and copper pricing changes daily. Any advance notice the manufacturer can get is an opportunity for savings for you. Again, everyone wins.

You might also be able to develop some kind of simplified billing process with the vendor that allows you to process fewer payments. The average

See PURCHASING, page 17

Experience Exceptional Quality, Reliability and Service!
Experience Armstrong Transmitter!



Our single tube high power FM transmitters offer you exceptional quality at affordable prices.

Built for the "real world" environment, these RF workhorses offer long term reliability and features not found in any other single tube transmitter available.

Features Include:

- 1/4 Wave Grounded Grid Tetrode PA
- Fiber Optic PA Arc Detection
- PA Temperature Protection
- Advanced Control System with remote computer interface
- More internal status sensors than any other transmitter
- CD Quality Audio (AES/EBU optional)

Available from 20 to 35 kW.
 Combined systems to 60 kW

FM 30000 TX

Armstrong Transmitter.. the best RF products, the best around the clock support and the best prices

....because you deserve nothing less!

ARMSTRONG
 TRANSMITTER CORPORATION

4835 North Street, Marcellus, NY 13108 (315) 673-1269 Fax 315 673-9972 www.armstrongtx.com

TECH TIPS

Check the Conduit

While inspecting AC power circuits in your facilities, pay special attention to any AC lines that have been run in Armor Flex or BX conduit. If the flex is exposed to intermittent or continual vibration, the insulation on the wires inside can be cut by the sharp edges inside of the flex, shorting out the lines.

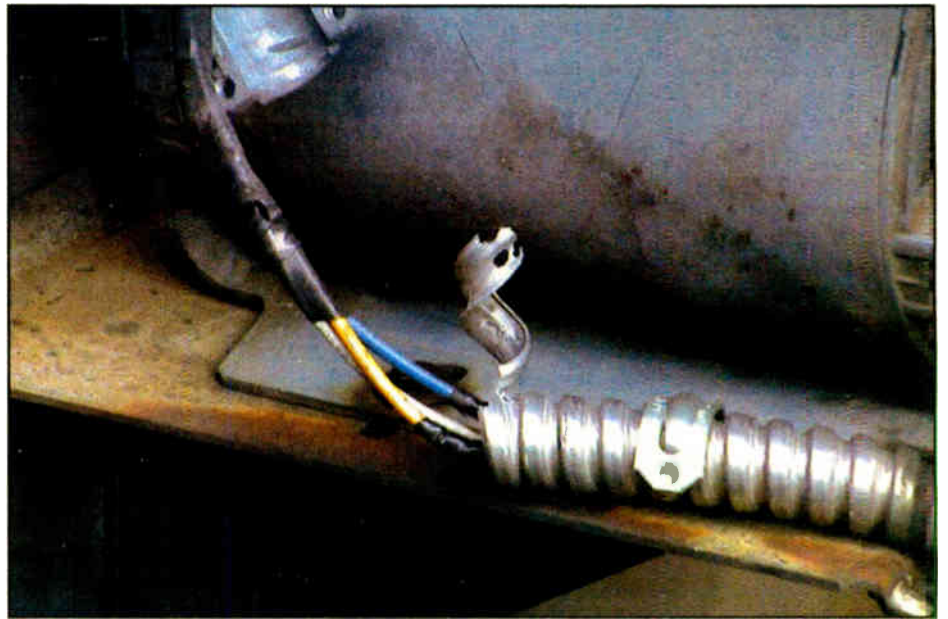
Shown is the AC line supplying power to a commercial air conditioning evaporation fan. At some time in the past, the original wiring was redone with the flex for the AC wires. Three years later, the

vibration shorted out the leads inside the flex, which burned the holes in the metallic wrap.

The flex was pulled back from the burns and bare wires temporarily taped. Ultimately, an electrician was brought in to replace the wiring and all the metallic flex with the newer style plastic water-tight flex.

— Stephen Rutherford

The author operates Rutherford Resources Contract Services and Engineering. E-mail him at sprutherford.bunny@rose.net.



Purchasing

► Continued from page 16

internal cost to process a vendor payment seems to be around \$75 per payment. If you could reduce the number of invoices you pay by 100, you could get a lot more productivity out of your accounts payable department.

The short list

You can take vendor management further and try to minimize the number of vendors you use. This may or may not work for you. It has been tried with varying success by several groups.

It has several drawbacks.

First is the nagging feeling that you are putting all your eggs in one basket.

Second, you might be restricting the ability of your local engineer to work with the products he feels are best for his application. You are paying this person for his technical knowledge; it is probably ill advised to ignore it.

Third, technical innovation and leadership tend to shift back and forth between manufacturers. You don't want to put yourself into a position of being slow to respond because you are locked into the habit of buying from one company only.

So you can have your cake and eat it. You can get low prices with minimal commitment and with little change in the way you operate. All you have to do is get a little more savvy about the way broadcast manufacturers and vendors work.

You probably have an engineer in your organization who has been trying to get someone to listen to a similar plan. Talk with him. Give him the responsibility of doing the organizational work. Let him negotiate with the vendors. You might even want to offer some kind of bonus based on savings.

This process can be implemented without creating a "purchasing" department for most groups. If you really are big enough, with sufficient capital spending, you might consider creating a position to oversee the process. The size of your CAP-X and the savings you think you can reap will dictate whether this has value.

One thing is definite: Managing the purchasing process can yield significantly greater savings than managing a purchase.

In broadcasting engineering for 30 years, the author has worked as a radio chief engineer, video facility manager and equipment sales executive. As the first national account manager for a large manufacturer, he spent many years viewing the capital spending process. He is now domestic sales manager for Logitek.

RW welcomes other points of view.



AudioVAULT: Because you wouldn't drink from the other guy's mug.

Just because you sit in the same chair, it doesn't mean you have to work on the same screen as the other talent. Whether you're left- or right-handed, left- or right-brained, the latest AudioVAULT

lets you create a custom interface that matches your workstyle. AudioVAULT enhances automation and content management with a second-generation CD ripper, true IP networking, enhanced quick-start pallets, and other new benefits including RDS and HD Radio data service integration. Now is the time to get serious about stepping up to the reliability of AudioVAULT.

Already own AudioVAULT? Contact BE for upgrade details.



Broadcast Electronics, Inc. • 4100 North 24th Street, P.O. Box 3606, Quincy, Illinois 62305-3606 U.S.A.
Telephone: (217) 224-9600 • Fax: (217) 224-9607 • E-Mail: bdcast@bdcast.com

Broadcast Electronics, the BE logo and AudioVAULT are registered trademarks of Broadcast Electronics, Inc. HD Radio is a registered trademark of iBiquity Digital Corporation.

Open an Umbrella, Save a Transmitter

by John Bisset

Fall is a wet time of year, and you may have been challenged recently with water entering your transmitter site. But never like this!

Our Sept. 8 column suggesting the use of a piece of rubber tire inner tube to protect locks comes with a caveat.

Noel adds that gateposts are another good hiding places for these little terrorists.

Noel and his engineers keep a can of wasp spray inside the car, along with a can of Off! or similar brand insect

RF is to be respected. Fig. 3 will drive that point home. A transfer switch has been switched "hot" — the transmitter does not shut down while the switch moves — and the results are seen here.

If you don't have a spare switch in your group, fabricate a "U-link" to patch around the switch while it is removed and repaired. A "U-link" can

be as simple as a short piece of line and a couple of unflanged elbows to form the "U." Don't forget the field flanges to mate to the EIA terminations.

At some sites, there is enough play in the transmission line that the ports "transmitter out" and "antenna in" can be married together; but don't force anything. Having a "U-link" sitting on the shelf is preferable insurance. Even better is to make sure the transmitter interlocks are wired through the

switch so it's impossible to switch when the transmitter is on the air.

Former Infinity DC Chief Mike Friedman suggests you check out the iRiver MP3 device he just purchased at Circuit City for \$129.99. The unit accepts external line-level audio via a 1/8-inch jack. The device also packs an FM tuner, which has good reception considering the device, and convenient size. The tuner has 20 FM presets, and

See MP3, page 20 ►



Fig. 1: An umbrella was pressed into service to keep the high-voltage vault dry.

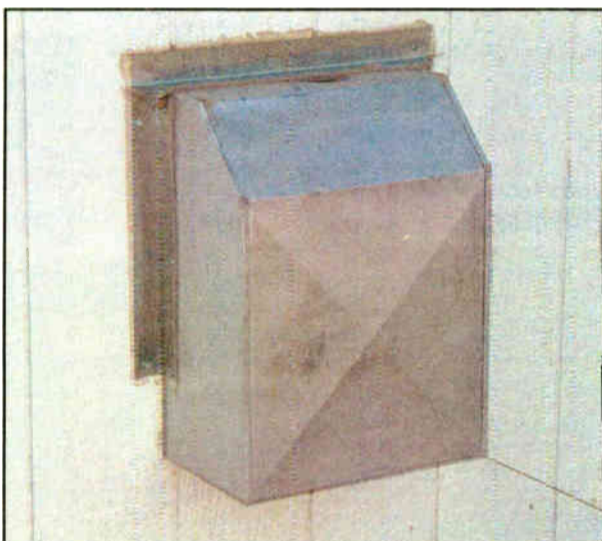


Fig. 2: Transmitter exhaust hoods provide shelter for nesting bees. Inspect with a can of wasp spray.



Fig. 3: Operating a transfer switch while under full transmitter power is not a forgiving event.

I'm always amazed at the ingenuity of broadcast engineers. That's why this is such a great industry and career.

In the case of our figure, the roof of a leased transmitter building was leaking, and getting progressively worse with all the rain. The landlord was dragging his feet to get the problem solved, and the chief had to keep the station on the air. Of course, the biggest leak took place over the RCA BTF20E's high-voltage vault.

The summertime beach umbrella to the rescue! Sure it looks crazy. But it worked.

Noel Richardson, vice president of engineering for West Virginia Radio Corp., saw the familiar ice shield and wrote that it does an excellent job of protecting the lock against the elements, especially during icy winters in West Virginia.

However, Noel has a word of caution. The inner tube sleeve makes a great home for wasps to build a nest. Within three days, Noel was back at this site and moved the rubber sleeve to unlock the lock. Three wasps flew out, and yes, they had built a nest there.

repellent. Ticks, mosquitoes and spiders are plentiful around transmitter sites.

Fall is a good time to give fence posts, eaves, ATUs and even the rubber ice sleeve a spritz of wasp spray. As these insects sense the cooler temperatures, they will search for sources of warmth; transmitter exhaust hoods and transmitter rooms are great. A good reason to keep things sealed. That includes the rubber seal at the door threshold.

Top-Value FM Monitor Model 531 - \$2700

THIS EASY-TO-USE FM MOD-MONITOR GIVES ACCURATE OFF-AIR MEASUREMENTS.

A wealth of features makes Inovonics' second-generation 531 the undisputed value leader in FM monitoring. In addition to the high-resolution total-mod display, the 531 also shows stereo audio levels, SCA and RDS subcarrier injection, plus a relative indication of incidental AM noise. A digitally-tuned preselector with programmable presets lets you quickly compare your station's parameters with those of market companions.

Signal strength and multipath readouts simplify antenna alignment and help validate all measurements. Rear-panel appointments include balanced audio out, composite in/outs, and both antenna and high-level RF inputs. Alarm tallies are provided for overmod, audio loss, carrier loss and excessive multipath.



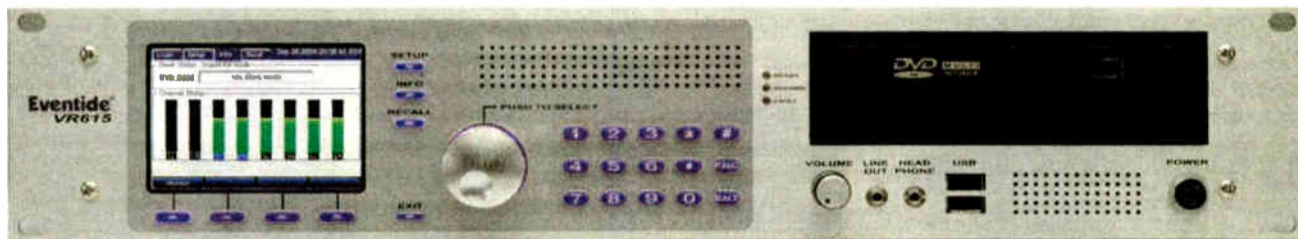
Inovonics
1305 Fair Ave. • Santa Cruz, CA 95060
TEL: (831) 458-0552 • FAX: (831) 458-0554
www.inovon.com • e-mail: info@inovon.com

Go to www.inovon.com for full technical details.

After All, Isn't Peace Of Mind What You Really Want?



+



=



Creative talent, interesting topics, and interactivity make great radio, but some times things go a bit too far. Protect your station from potentially costly FCC fines with the powerful combination of the world-standard Eventide BD500-401 digital broadcast delay, and the flexible Eventide VR-615B logger. With a full 40 seconds of delay the BD500-401 allows you to "take back" potentially offensive statements and the VR-615B logger allows you to prove it! With up to 24 channels of logging it's perfect for your consolidated operation. You can even track the competition!

Harris and Eventide have teamed up to bring you peace of mind and a great deal! To learn more about a great deal on this powerful combo, call us today at 800-622-0022.

Eventide is a registered trademark of Eventide Inc. ©2004 Eventide Inc.

T H E N E W H A R R I S R A D I O T E A M I S O N T H E A I R



AM/FM



AUDIO CONSOLES



DIGITAL RADIO



BROADCAST STUDIO



HIGH POWER AM



SYSTEMS & SERVICE

FIRST PERSON

Bermuda Gets a 'Hott' New FM Station

by Grady Moates

For radio people, a vacation in Bermuda has always been a *real* vacation. The FM radio dial was all hiss except for four frequencies: three broadcasters and a dead carrier for the island's emergency alerting system.

Well, all that's changing. The government of Bermuda is accepting applications for new FM radio stations for the first time in 20 years, and the Bermudan radio dial soon will be active with new voices.

The first of them, WHT(FM), a 2 kW station owned by Inter-Island Communications Ltd., commenced regular operation on Monday, July 5 under CEO Glenn Blakeney, who is a member of the Bermuda Parliament; COO Elroy Smith; and CFO Scott Pearman.

For its first 24 hours, "Hott1075" played a specially prepared mix of Nelly's "Hot in Here," with numerous heavily-produced drops intermixed. As these first hours went by, excitement on the island built. Station managers were driving a minivan wrapped with station graphics around the island, and many people passed by the new studio location with arms waving and horns honking.

At noon on July 6, Hott1075's first live programming began with an hour-long premier broadcast, introducing the station's staff

to Bermuda, taking phone calls and launching the station's first promotion. Dubbed "Commit to Switch," this promotion

while all this was going on. It was exciting to watch, but the work we had endured to complete the buildout in time for the sched-



M.P. Glenn Blakeney, CEO of IIC; Grady Moates; and Hiram Edwards, assistant director of the Bermuda Ministry of Telecommunications.

promised a chance at \$1,075 for each person submitting a coupon promising to switch to the new Hott1075.

I remember being numb and washed out

uled launch date was exhausting. This may have been the first day of Bermuda's new radio station, but for me it was the culmination of three months of intense preparation

and grueling work.

In late March, I had received an e-mail from an old friend, Elroy R.C. Smith. Elroy is a well-respected and successful programmer in Chicago for Clear Channel's WGCI(FM). We had worked together in the 1980s at Boston's legendary WILD(AM), pulling 3-shares in the Boston metro with a 4,000-watt daytimer.

When Elroy told me that he was building a new radio station in his hometown, I said, "Elroy, you only get to do this once in your life. You've got to let me be a part of it."

Then he described the aggressive buildout schedule: on the air on July 5. What had I gotten myself into?

There were many obstacles to overcome. Tower space agreement, antenna system design, equipment list discussions, vendor selection, details of shipping equipment to an international destination, freight forwarder selection, the details were endless.

Steve Vanni at Technet Systems Group faced the challenge of getting the equipment to SeaVentures in New Jersey by 5 p.m. on June 23 so that the freight container could make the June 25 sailing and arrive in Bermuda on June 28. Allowing two days to clear Bermuda Customs, we had four days to build this puppy. There wasn't time to worry that we were missing something, we were working too hard to worry.

Working with the Bermudan government was a wonderful experience. Customs, Immigration, Telecommunications, Police and Fire Department officials were among

See BERMUDA, page 21 ▶

MONITORING TO THE POWER OF 8.

The ultimate audio monitoring card. Times eight. Broadcast monitoring is more important than ever. AudioScience makes it easier than ever with the amazing ASIS702/3703 8-channel tuner adapter boards. Now you can monitor, log, verify ads and identify content on 8 audio channels simultaneously from just about any source: AM, FM, even TV (ASIS7C3). An onboard 225MHz DSP processes the audio and routes it out thru DB-9 and 50-pin connectors. Drivers for Windows 2000, XP and Linux are available. Need even more power? Let us custom-configure tuner and DSP options for any application. Call us at +1-302-324-5333 or go to www.audioscience.com.

BUILT FOR BROADCAST

AUDIOSCIENCE
Audio Engineering
Since Excellence

MP3

▶ Continued from page 18
it records FM broadcasts.

As with all MP3 players, it interfaces with your computer. Pick one up for your GM or PD; jocks and sales staff will want their own, too. Don't forget *your* holiday list, too.

While this concept is nothing new, it's the smallest, cheapest and most versatile unit Mike has seen for anyone wanting to capture the FM airwaves on the go. The display is shown in Fig. 4. The only drawback is that the recorder will only record as good as the received signal. Distant FM signals will record noisy.

Bring it up at a manager's meeting. If you buy the first one for yourself, bring it along — and take orders. Demonstrating something that can help the PD monitor competition and the sales folks skim competitors for spots just drives home the point that you are a team player.

I've known these discount houses to offer a better price on multiple purchases. Get your order together and talk to the manager.

Thanks, Mike, for a great idea to not only get the job done, but to help promote engineering as a new technology leader. Mike Friedman can be reached at mikef@broadcast.net.

★★★

I'll be the first to admit some wariness with regard to ordering over the Internet. However, I've seen the results of many engineers' searches, and you can get some great buys.

This site looks promising, though I can't make any recommendations. Taiwan Connector manufactures a variety of small RF connectors, plugs and cable assemblies. They want a minimum quantity of 1,000 pieces; but several engineers — or a group — could make that quantity disappear quickly.



Fig. 4: Display of the iRiver MP3 unit, which records FM broadcasts.

Type "N" crimp connectors for 50 cents, bnc plugs for less than a quarter. The company is a division of Fortunet Co., and its Web site www.taiwanconnector.com, or e-mail to sales@afortunet.com.

John Bisset has worked as a chief engineer and contract engineer for more than 30 years. He is the Northeast Regional Sales Manager for Dielectric Communications. Reach him at (571) 217-9386, or john.bisset@dielectric.spx.com.

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

Bermuda

► Continued from page 20

the most professional, dedicated and detail oriented folks I've ever worked with.

Nothing was left to chance. Every phase of the process was "by the book," which can be translated as "time consuming," but I was pleased to realize that every procedure had a purpose, and that following through on all the procedures was going to result in a better facility.

On the morning of the last day on which the freight forwarder could accept shipments to place in the container, the FM antenna and the STL equipment were still in transit. The antenna arrived an hour before the doors closed. When the container sailed, 10 percent of the equipment was not inside. At the last minute, late shipments were redirected to Radio Systems, which included these items with its consoles and shipped them in by airfreight.

Now it gets interesting. As the container was sailing, I got word that the tower owner with whom we'd contracted had realized he didn't actually own the tower, and so couldn't give us permission to use it. I flew in to have talks with the Bermuda Police Department to see if we could share space on their tower nearby. I provided loading specifications for an urgent structural analysis to George Mensah, the police department's communications manager.

June 30 came, and the results weren't back. I realized that if I stayed in the States and waited until results were received, I'd lose a day and there'd be no way to finish on time. On faith, I flew in.

On July 1 at about 1:30 p.m., George called the CEO and said, "Your antenna is just a bit too heavy for our tower, so I think you'll have to find someplace else."

Hah hah hah

After a 20-second pause, he said, "I was just kidding. It's fine! When do you want to start?"

After some cursing and good-natured name-calling, the boss handed me the phone. George's first words to me were "You're not angry with me for playing that joke, are you?"

I replied, "George, you only get a chance like that a few times in life. You've gotta go for the laughs."

Chris Loycano at Broadcast Tower Service was holding the crew's schedule open in case approval came, and booked their flights for the next morning.

On July 2, "It was a dark and stormy morning." The mother of all electrical storms was sweeping across the Eastern Seaboard and out over Bermuda. Three of my client stations back in Boston had problems at various times that morning, but Paul Andrews graciously helped out there.

Just as the jet carrying my tower crew landed in Bermuda, the clouds drifted away and the sun broke through. All looked cheery and bright.

An hour passed. No tower crew. Finally my cell phone rang. Immigration didn't have the right paperwork. We had about two hours to get proper work permits (instead of business letters), or the guys had to go back on the plane they came in on.

The storm had taken down cell-to-cell wireless service, and I couldn't reach any station management folks on their cell phones. My PDA had just died due to a leaking battery. I found myself sitting on a sidewalk outside the airport, next to Immigration's little intercom speaker in a beige concrete wall, booting my laptop to try

to get a landline number for someone who could call someone else who could deal with this latest crisis.

Under these fresh, clear skies, I thought I heard someone crying. I think it was me.

Just in time

The station studio is in the Bermuda Industrial Union building in Hamilton. The transmitter is about two miles to the south-southeast on top of tallest hill on the island, a place called Fort Prospect.

By 3 p.m., we had our riggers at the tower, Customs had released our equipment shipment and a truck was bringing it to the site. By sundown the antenna, STL dish and coaxes were on the tower, on the ice bridge and into the building.

Saturday morning we assembled the transmitter and other rack equipment, dressed the cables, connected it all up, and

had good matches on both antenna systems. At noon, just as the riggers were packing up to fly home, the rain resumed.

By Sunday afternoon at 5 we had a complete system working. Brad Golden, an installer/trainer from Prophet Systems, had his computer playing sound through the temporary studio that had been wired by my fellow engineer Skipi Comeau. We turned it on for a quick test. The Broadcast Electronics FM3C transmitter and the Shively 6513 antenna supplied a rock-solid signal at both ends of the island. Everyone rejoiced.

Hiram Edwards, assistant director of the Bermuda Ministry of Telecommunications, met us at the transmitter site for the required governmental inspection on Monday morning, and by noon he had granted Program Test Authority. Edwards was especially complimentary as he inspected the tower work. BTS does a great job.

We used a Moseley SL90034-2S, feeding linear digital AES/EBU at 44.1 kHz. The station is 100-percent digital from the input to the audio processing at the studio all the way to the listener's antenna; the BE FXi250 exciter generates the entire FM carrier+stereo program on carrier in DSP.

In December, I'll upgrade the Radio Systems consoles to digital, and we'll be all digital, music to listeners.

Looking back now, all the dominoes seem to have fallen over "just in time." It feels good to have been the organizer of this minor miracle, and I thank all those who had a hand in this success.

Now, where's that piña colada you promised me?

Grady Moates is owner of Loud & Clean Broadcast Science, Boston. You can read more about this installation at www.loudandclean.com.

Looking for a new Digital Audio System? Why not try the

INNOVATOR





Broadcast Automation Software

Innovation has been the trademark for OMT since 1984, with an impressive list industry firsts that have set the stage for the future of broadcast solutions.

From our iMediaTouch broadcast automation system, to our #1 selling digital logger and our award winning internet streaming software, our iMedia product lines provide innovative choices for your radio group or station.

We guarantee that your station will be prepared for the future of radio with iMediaTouch

Find out why over 1000 radio stations and the top consumer music providers all chose OMT products.

Hot 97.5

KVEG-FM - Las Vegas, NV

"I've been building studios since I was 13 years old. iMediaTouch is far ahead of the others in both ease of use and straight forward design. They also care about the quality of your product - The Music."

Jay Rose - Engineer
Jay Rose Engineering - HOT 97.5 KVEG Install

iMediaTouch features:

- Non-proprietary hardware, use any audio card, any PC
- Supports MP2, MP3, PCM, WMA and Dolby!
- Live Assist, Satellite or Full Automation
- Complete website integration with XML or HTML output
- On-Air Promo builder for on the fly promos
- CD Ripper and complete production tools for automation
- On-Air studio or Production studio Voicetracking
- On-Air Phone bit editor with full production capabilities
- Proven on XP Pro since 2002! Supports Windows 2000 & NT

The Original. The Standard. The Innovator. 

To find out more, call us Toll Free 888 665 0501 or visit www.imediatouch.com

Leading POTS Codecs Compared.

	Comrex Matrix	Tieline Commander	Zephyr Xport
Audio Bandwidth @ 24 kbps @ 19 kbps	14 kHz 11.2 kHz	15 kHz 9 kHz	15 kHz 15 kHz
Direct Internet Software Updates	No	No	Yes, via Ethernet port
Digital PC Audio Input	No	No	Yes, via Ethernet port and supplied driver
Audio Metering (XMIT/RCV)	Transmit only	One-at-a-time	Simultaneous
Audio Processing	None	Simple AGC	Digital multi-band AGC with look-ahead limiter by Omnia
Remote Control	No	RS-232 and dedicated computer	Ethernet via Web browser
Auto Dial Storage	19 Numbers	50 Numbers	100 Numbers
Frequently-Used Settings Storage	none	none	30
Standards-based POTS Codec	No - Proprietary	No - Proprietary	Yes - aacPlus (MPEG HEAAC)
Transmit-Receive Quality Display	No	Yes	Yes
Contact Closures	2	2	3
Display Resolution	120x32 LCD	120x32 LCD	128x64 LCD
Analog Cell Phone Interface	Optional	Standard	Standard
Mixer Inputs	1 mic, 1 mic / line	2 mic / line	1 mic, 1 line
Phantom Power	No	No	Yes - 12 volt
Automatic Voice-Grade Backup	No	No	Yes
Power Supply	External	External	Internal auto-switching
Local Mix Audio Outputs Headphone Line Level	Yes Yes	Yes No	Yes Yes
Direct Receive Audio Output	No	Yes	Yes
Uses ISDN at the Studio Side for More Reliable Connections	No	No	Yes - your Zephyr Xstream becomes universal POTS and ISDN codec.
Available ISDN Option	\$850.00 (adds MPEG L3 & G.722)	\$850.00 (adds G.722)	\$495.00 (adds G.722 & state-of- the-art AAC-LD for high fidelity and low delay)
List Price:*	\$3,700.00	\$3,650.00	\$2,495.00



The world's most advanced POTS codec
is also the world's lowest priced POTS codec.

Telos
AUDIO | NETWORKS

KPYK Is a Real Mom & Pop Station

by Bill Ryan

Swimming alone in a major-market sea of corporate-owned stations is tiny KPYK(AM) — "Your Pick of the Dial"

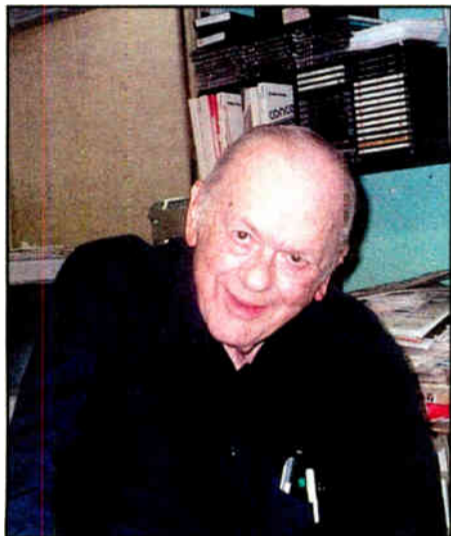
While Mohnkern, 76, and his 70-something wife Liz keep the big-band music coming, their son, Chuck, takes care of studio maintenance. Chuck also runs the Radio Shack store a few doors

men," Mohnkern said. "If I weren't tied down here at the station, I'd go downtown in Terrell and sell."

He said most of the station's revenue comes from the paid religious and

games and by giving us local news," said Terrell Chamber of Commerce Director of Tourism Sarah Kegerreis. "And they broadcast our big Fourth of July concert every year so the shut-ins can hear it."

"The station provides a real service to the community," said long-time high school band director Bob Snyder, now



Len, left, and Liz Mohnkern



CDs and carts work side by side at KPYK.

— in Terrell, Texas, population 14,000. The 250-watt station at 1570 kHz is located about 20 miles east of the Dallas suburbs of Mesquite and Garland. Its signal covers those communities beautifully, as well as Richardson and most of the eastern side of Dallas. But the signal fades as you drive west. The boonies in nearby rural counties get a strong signal.

from the station in a Terrell shopping strip.

Paid programming is the bulk of the station's revenue. It's startling to listen to KPYK for hours and never hear a commercial — other than for "Mohnkern's Electronics, your Radio Shack dealer."

Chuck takes care of virtually all the station's engineering. "But if we get a

gospel programs on weekends, and during the football season from ads sold against Terrell Tigers high school games. But he said the economic show-down has shrunk the number of commercials in this year's game broadcasts.

The station carries Terrell City Council meetings, school board meetings, the morning police report and public service spots.

"KPYK provides a real public service by broadcasting the high school football

retired. "Besides the pretty music, the station keeps us informed."

Snyder and three other musicians, including Mohnkern, tape a weekly live musical show for Saturday playback. "Our piano player, in his 90s, died recently and we hope to replace him," Snyder said.

Len Mohnkern said the station targets the older, over-50 crowd. "the folks who like our kind of music —

See MOM AND POP, page 27 ▶

**If I weren't tied down here at the station,
I'd go downtown in Terrell and sell.**

— Len Mohnkern

It calls itself "the only radio station in the Dallas area devoted to playing the music of the Big Bands and Great Singers."

"My son and I bought the station in 1992 after thinking about it for a year," said co-owner Len Mohnkern. "We paid around \$100,00 for it and paid off the loan sooner than expected."

Back when, his own parents had moved to Garland, where his father was chief engineer for an oil field equipment firm. "We would come to visit them, and liked it here; so we moved to Terrell from Ohio in 1968."

He was city editor of the Terrell newspaper and did some announcing at KTER, a predecessor to KPYK. He also worked at radio stations in Dallas.

lightning strike or something serious, we call a friend who is an engineer," Mohnkern said.

Len Mohnkern said his daughter, Susan Pinson, takes care of the station's traffic and types the logs. On Saturday mornings, Marvin Malone, 76, works a shift of a few hours. Warren Daniels purchases a three-hour black gospel show on Saturday, followed by more paid gospel with Reginald Daniels and then James Turner.

No sales team

How does the station survive with no visible or audible means of support, and bills to pay?

"We'd like to have commercials but we have no one to sell time, no sales-

Studio Solutions

Model ACU-1 Audio Control Unit

- 8 x 1 stereo audio switcher
- sixteen logic level status inputs
- eight control relay outputs
- separate left and right silence sensors
- multidrop RS232 communications
- front panel channel indicators and VU meters



Model TTI-2 Time • Temperature • ID Delivery

- time and temperature delivery for automation
- 60 seconds of user recordable storage
- automatically varies message delivery
- professional male announcer voice
- temperature in Fahrenheit or Celsius
- battery backed AC synchronized clock
- digital message storage - no moving parts



Sine Systems, Inc.

615.228.3500
more information: www.sinesystems.com

BSW is Your Best Source



**BSW Exclusive
FREE keyboard shelf
with desk purchase**

Popular Black Recording Desk Only \$389 at BSW!

The OmniRax Presto is designed to meet a variety of needs in an ergonomic and economical fashion. It now includes casters and offers more leg room. The desk surface is wide enough for smaller mixers or computer control surfaces, while providing 8 rack spaces in two bays within easy reach. Black color. Dimensions: desk surface height 26.5", desk surface 21.9" D x 55.9"W.

Right now, BSW is including the keyboard shelf FREE with your desk purchase (a \$175.00 value)! But only through November 12th. Order now.

PRESTO desk List \$530.00
KMSPR keyboard shelf List \$175.00

LowestPrice: Only \$389!!

OMNIRAX

Top-Selling Desk Only \$479 with FREE keyboard shelf!

Now when you order the Nova desk from OmniRax, BSW includes the keyboard shelf FREE (a \$180.00 value)! The Nova is a simple and stylish desk for audio/video editing and other computer work. The NOVAMMS features black melamine with maple melamine top surfaces. The computer keyboard shelf features one touch adjustment for tilt, swivel and height. Upper shelf is 32.4" H, with main desk at 28"; desk is 29" D x 53.5" W. Two 2-space rackbays are right under the upper shelf for convenient access. Casters provide easy mobility/cablings.

NOVAMMS desk List \$675.00
KMSNVMM keyboard shelf List \$180.00

LowestPrice: Only \$479!!



Offers expire
November 12th.

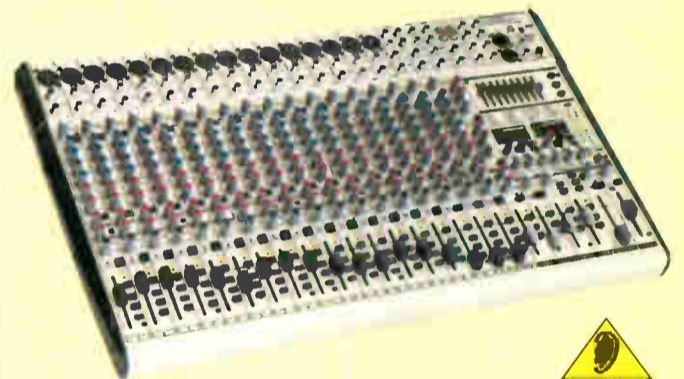
**Call for Low
Introductory Pricing
on the new Omnia**

Omnia
A Telos Company



Most Affordable Omnia Ever!

Newly turbocharged, the Omnia-3fm Turbo adds three bands of AGC/Compression to the existing three bands of limiting. This allows truly customizable audio texture settings, similar to the higher-end Omnia processors. Plus, the Omnia-3fm Turbo keeps the wideband AGC currently found in the traditional Omnia-3fm. This keeps the multiband AGC/compression right in the "sweet spot". The Omnia-3fm Turbo offers the advanced



Lowest Price Full-Size Mixing Board

Behringer's SL Series large mixing consoles put a professional board within reach of more production operators - can you believe a full 24-channel mixer for under \$450.00! The SL2442FX-PRO has 16 mono plus 4 stereo channels, and it features 4 subgroups and 4 pre/post switchable aux sends per channel. Get it today from BSW.

Features:

- studio-grade mic preamps
- built-in dual 24-bit FX processors
- new Feedback Detection System
- 3-band EQs with semi-parametric mids and low cut filters for the mono channels
- high-headroom stereo input channels with 4-band equalization

SL2442FXPRO List \$539.99

LowestPrice: Only \$449⁹⁹!!



Secret Undocumented BSW Employee #5: Freelancing for BSW during the daytime, Carl insures that BSW is getting the very best *exclusive* deals from manufacturers. We don't know how he does it... and we don't ask.



**Price Reduction
Only \$369!**

Lowest Price on RE20

Get the RE20 at a great low price! This venerable Electro-Voice dynamic on-air mic is a favorite of broadcasters and engineers worldwide. Its patented, Variable-D design is famous for eliminating bass-boosting proximity effect when close mic'ing and its bass roll-off switch helps to shape low-end response. Frequency response is 45 Hz-18 kHz. Order today.

The 309A is the suspension shockmount.

RE20 List \$798.00

309A List \$178.00

LowestPrice: Only \$369!!

LowestPrice: Only \$99!!
World Radio History



GALAXY AUDIO

Powered Newsroom Speaker

The Galaxy Micro Spot VC was originally designed for courtrooms and paging applications, but it's perfect for newsrooms. Its small size combined with its vocal clarity allows it to be placed in even the tightest areas and still be heard clearly. The Micro Spot VC features a front-panel volume control knob.

Features:

- controlled bandwidth (150 Hz-15 kHz ± 6 dB)
- one ferrofluid-cooled 5" driver
- 100 watts continuous power rating
- 16 ohms impedance
- two parallel 1/4-inch jacks
- includes stand mount yoke bracket

MSVC List \$99.99

LowestPrice: Only \$69⁹⁹!!



NEW

for Exclusive Audio Deals



Technical features you need: integrated digital stereo generator with advanced peak control, 48 kHz sampling with 24-bit resolution, AES digital and analog I/O dual composite MPX outputs and more. Take advantage of Omnia and BSW's low introductory pricing on the Omnia-3fm Turbo.

OMNIA3TURBO List \$2,995.00

LowestPrice@bswusa.com

FREE 2nd Audio Card from BSW!



Automated Program Archiving System

Now, more than ever, you need a reliable, easy-to-use archiving system to log your on-air programming. The TeLOS Profiler is the cost-effective way to automatically log your station's program audio using industry-standard MP3 audio compression, on a standard PC computer. This system includes software and audio card. And BSW now includes a second audio card FREE so you can stream up to four mono (or two stereo signals) to one PC. Configure once and Profiler runs unattended, producing time-annotated MP3 files. Archived audio can be auditioned remotely via LAN, WAN, or the internet. Call today.

PROFILER w/second Free audio card List \$595.00

LowestPrice@bswusa.com

Lower Price on 24-bit/96 kHz Audio Card

The popular MiaMidi audio card offers dual 1/4" balanced analog I/Os and operates at +4 dBu levels, with 106 dB of dynamic range, a S/PDIF digital audio interface, and MIDI in, out and through. The MiaMidi uses "virtual" outputs, appearing to software as if it has eight separate outputs, which are digitally mixed to the physical outputs - great for DAW recording. Save now at BSW!

MIAMIDI List \$249.00

LowestPrice: Only \$179!!



2-Channel Compressor with BBE Sonic Maximizer!



Take a look at the BBE MaxCom, a dual-channel compressor and limiter with gate, which features an onboard BBE Sonic Maximizer circuit, all housed in a compact and easy-to-use 1RU package. It provides your audio with the clean, clear punch that only a truly professional dynamics controller can, with the added benefit of the enhanced sound delivered by BBE processing! The MaxCom is the first signal processor of its kind to feature an onboard BBE Sonic Maximizer.

Features:

- two independent compressor/limiters
- independent controls for Threshold, Compression Ratio, Attack Time and Release Time
- Linking function allows for phase-coherent tracking of stereo signals and adjustment from the Channel One controls.
- metering via dual bar-graph meters
- balanced XLR and unbalanced 1/4" I/O

MAXCOM List \$329.99

LowestPrice: Only \$199⁹⁹!!



200-Watt, 1RU Power Amplifier

ART has raised the bar on quality and lowered the bar on prices. The new SLA2 studio linear power amp delivers 200 watts of power with ultra-low noise and distortion. The SLA2 features ART's SmartFan technology. In addition to a standard cooling fan, the oversized convection heat sinks located on each side

of the SLA2 silently direct heat flow outside the chassis. The SmartFan kicks in only when the amp's heatload rises, creating "on demand" cooling. Includes tamper-proof faceplate. Balanced XLR, Euroblock and 1/4" TRS inputs.

SLA2 List \$379.00

LowestPrice: Only \$299!!



Trusted JBL Studio Monitors

JBL's 4410A passive studio monitors are staples of the broadcast industry. Quality components and circuitry produce smooth, accurate audio monitoring. Priced as each (left/right speaker). Call for our low sale price today or order online at www.bswusa.com.

Features:

- 10" woofer, 5" midrange and 1" tweeter
- fine transient response and accurate spatial imaging
- refined internal crossovers offer exacting control with smooth transitions between transducers

4410AL/4410AR List \$565.00 each

LowestPrice@bswusa.com



BSW Exclusive 5-Pack \$89!

Incredible Value Headphones

Five Sennheiser HD202 headphones for \$89.00? We're not kidding! These durable, sealed-ear headphones provide crisp bass response and good isolation. Powerful neodymium magnets offer high sound levels with 18 Hz-18 kHz frequency response. Impedance 32 ohms. BSW has sold over 10,000 of these popular headphones! Order your pack today while supplies last.

HD202PKG List \$149.75

LowestPrice: Five for Only \$89!!

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

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

The World's Best Source for Professional Audio Products.



World Radio History

'Bright Lights' Will Help Radio

by Paul J. McLane

A study by Wachovia Capital Markets says cutting clutter will work because new verification technologies will keep radio groups honest.

The study argues that the availability of new third-party monitoring data to the industry means radio will be forced back to "normalized spot loads and typical supply-demand negotiations," even though the transition may be bumpy at first.

"This should strongly encourage, if not demand, that all radio groups adhere to or come as close as possible to the proposed Clear Channel inventory ceilings of 12 units per hour in morning drivetime and 10 units per hour in the afternoon/evening drivetime and midday dayparts."

No more guessing

"Enforced discipline is a very good thing," wrote the authors, Jim Boyle and Marci Ryvicker. "This type of analysis has never been done. ... The analysts and investors had to rely on the companies themselves to characterize their units per hour load, or believe the whispers about the reputations of the better-behaved groups and the less-disciplined groups."

"That era is soon to be over."

Wachovia itself used third-party data, collected by RCS Inc., in preparing its research. It says radio does indeed have a clutter problem: "Too much inventory had been added to offset the ad rate cutting that has gone on for over a year. ... The two largest groups, Clear Channel and Viacom's Infinity, average just under 14 units per hour" in peak drive times. And "it's not just the two largest groups ... it is also many of the 32 public and private companies" it studied.

"Surprisingly, some group executives do not know that some of their clusters or stations may be running heavy loads until a disgruntled peer alerts them."

The authors of the report expect inventory spot load reductions will begin late this year as many groups and clusters prepare for the January Clear Channel deadline.

Among its key conclusions:

✓ Third parties have begun tracking inventory in a detailed way. "Advertisers and investors, who had previously been forced to take the word of radio groups, should soon know the actual inventory loads of stations in large markets."

✓ Ad rate cutting/inventory loading should be fixed in 2005. "The panicky overreaction to economic uncertainty that has plagued radio sector growth since the Iraq invasion can and should be fixed in early 2005. The CCU inventory reduction is a gutsy, superb long-term move, in our view. What should make it realistically occur in a broad, disci-

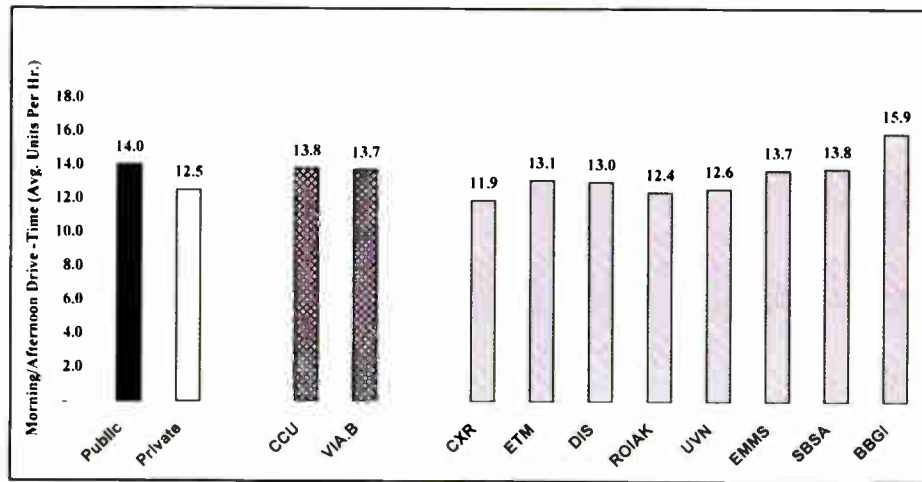


Fig. 1: Average drive-time spot loads of selected companies, from a report by Wachovia Capital Markets using RCS data. Companies listed are Clear Channel (CCU), Infinity (VIA.B), Cox (CXR), Entercom (ETM), Disney (DIS), Radio One (ROIAK), Univision (UVN), Emmis (EMMS), Spanish Broadcasting (SBSA) and Beasley (BBGI). Infinity and Disney do not include AM stations.

plined fashion is the 'bright light' of third-party detailed data that is coming. ... Groups can't fib."

✓ The heaviest inventory among the companies it studied was at Clear Channel and Infinity; the lightest were Cox, Entercom Radio One and Univision. "Most groups increased inventory loads in the last year, but some began at lighter than average levels. To successfully cut back, the two

largest groups have the most work to do," although Infinity had begun to do so as of August.

✓ "(The) 'cracked' radio model should be fixed," the authors concluded, but we can expect disruption in the first quarter. "Repairing the self-inflicted ad rate cutting and inventory loading, more often committed by the giant platforms than not, should take 3-6 months beginning in Q4. The radio

model still offers the benefits of a youthful, inexpensive audience for advertisers. If the sector can readjust the supply-demand equation favorably, this time beneficially led by the largest groups, radio's ad rates should plausibly rise again."

Inventory loading

Among its detailed findings, Wachovia said publicly held groups on average run about one more unit per hour in drive times than private groups (nearly 14 units per hour vs. 12.5), and the effect is more pronounced in morning drive.

It also found that AM formats on average run over 3 units per hour more in drive times than FM radio formats; certain formats and markets lend themselves to a more competitive, cluttered inventory load; and cities that have more people commuting by car tend to have heavier spot loads.

The broadest and heaviest "inventory loading" occurred since the Iraq invasion, apparently as "a panicky reaction or over-reaction to the post-invasion economic and advertising uncertainty. ... We believe that the rebound this time from a recession and a Gulf War ... took longer because the top two radio giant platforms now account for 30 percent of the sector revenue, while last time they accounted for less than 5 percent. ... Two poorly disciplined rate cards highly pressured by Wall Street, with more than 30-40 percent of the inventory in many major markets, have been largely sponging up any percolating demand."

Further findings:

✓ "It's not as heavy an inventory load problem as the most bearish conventional wisdom suspects because the historical evolution of spot loads for the industry has merely been on average a single unit heavier per hour across the entire 6 a.m.-to-midnight time period."

✓ "It's not as narrowly localized a problem as the more bullish conventional wisdom hopes because it's not just the two largest radio groups (which have been the most frequently blamed) that have loaded up inventory levels. It's many of the public groups and some private groups, including some self-proclaimed 'boy scouts.'"

✓ "Groups can and have loaded up inventory more subtly by dumping spots disproportionately in the final hour of drive-time or by loading up in the midday daypart."

✓ Certain popular drive personalities have heavy to very heavy spot loads.

✓ Even academically owned commercial stations "can fall prey to the capitalistic urge to satisfy commercial demand." The authors noted Howard University's WHUR(FM) in Washington for its 16.5 units per hour in drive times.

The report was based on an inventory analysis of 32 groups owning 200 stations in 20 cities, including 14 public and 18 private companies.

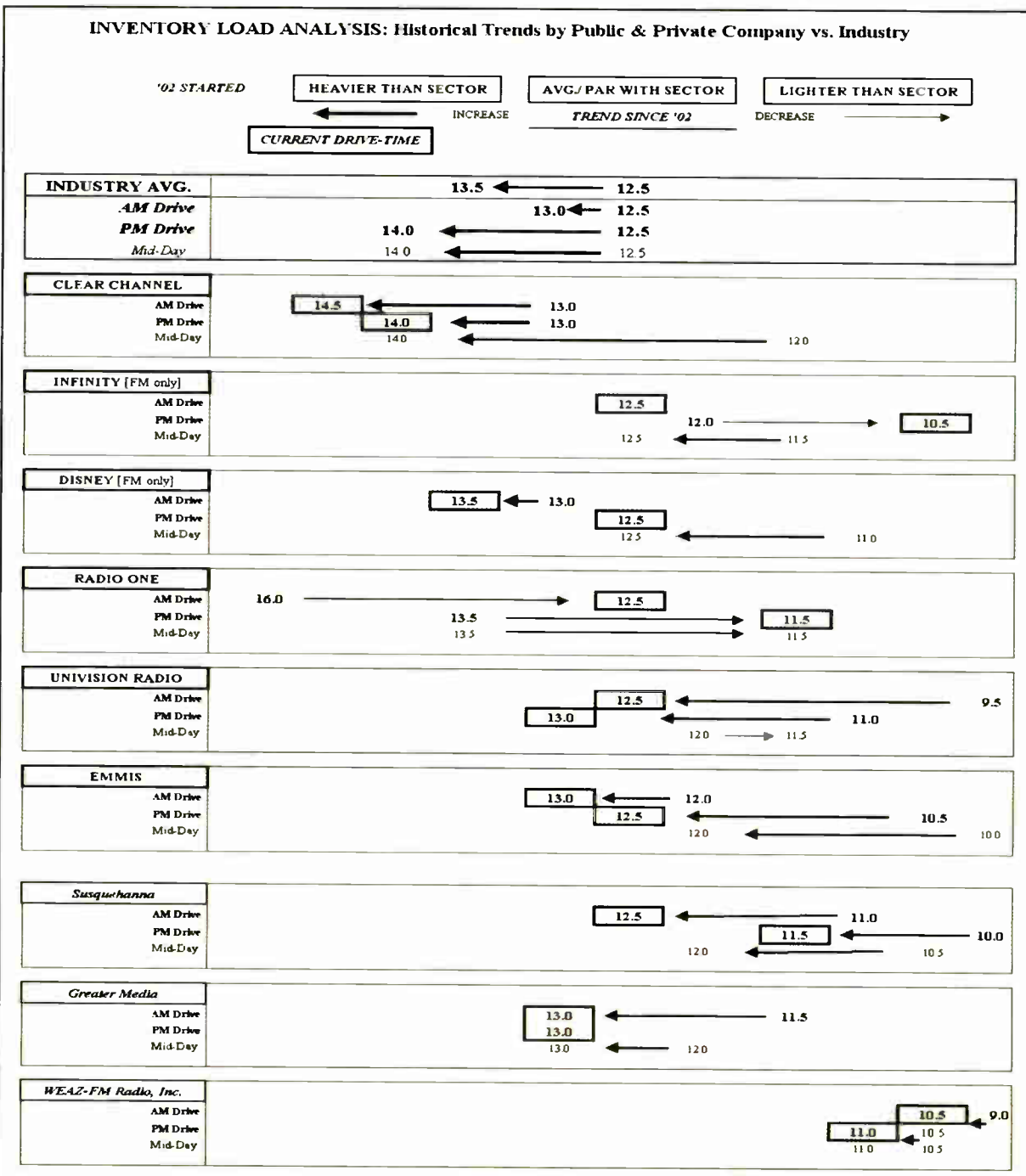


Fig. 2: An inventory load analysis shows selected trends in spot loading since 2002. Arrows pointing left indicate increased loads; to the right is decreasing.

Mom and Pop

► Continued from page 23

'O-K-O-M.'" Besides almost continuous "Big Band and Great Singers," the station carries the music shows of Don Kennedy and Jim Lowe plus Duquesne University's "Rhythm Sweet and Hot."

None of the above costs the station a penny, nor do the hourly newscasts from the USA Radio Network or Stan Freberg's "When Radio Was" dramas, Mohnkern said.

These shows contain commercials, which KPYK carries in return for getting the program free.

Asked if the station is considered part of the Dallas-Fort Worth market, Mohnkern said, "I think we really are. KPYK is in the Dallas Morning News list of AM stations."

The fact that KPYK shows up in the Arbitron book indicates that it has at least 1 per cent of the market's listeners, he said; but he has never taken a listener survey. "If people want to know, we just tell them it's around 25,000, but it's just a guess."

The FCC requires the station to drop power to 12 watts in the evening and six watts overnight. This is to protect super-power border blaster XERF in Ciudad Acuna, Mexico.

The studios are located in the corner of an L-shaped single-story strip shopping center. A Chinese restaurant separates the station from Chuck's Radio Shack. The Mohnkerns pay rent at both locations.

Simple rewards

Len and Liz arrive at 6:30 each weekday morning. Liz gets the day's music going and Len scours the paper for local news items he reads after the USA Network news. He includes military releases about area service men and women. It's this way through the morning, with phoned-in Dallas traffic reports during drivetime between songs of the 1940s.

With its Chuck-installed automation, the station could run itself. Liz's big show begins at 4 p.m. with music and more traffic reports. Neither Len nor Liz attempt to inject any "personality." It's all done low-key and professionally.

You can see the Mohnkerns, view their vast playlist and learn more about the station at www.kpyk.com.

Gear List

"Our main console is a Pacific Research & Engineering BMX-14," Chuck Mohnkern said. "Our composite computer uses BSI software with CD music playback on Denon DN-950FA; our programs come to us on CD and are copied onto our hard drive with Audio Grabber software. Our mikes for on-air and production are Shure SM7A."

"We use Marti for our 2/10ths-of-a-mile STL. Our transmitter is a Nautel Ampfet P400 and it is controlled by a Gentner VRC2000, which also drops and raises the power."

"Our 180-foot guyed tower is made of fabricated steel rods. We have a copper wire ground system on out six acres, which we lease."

As for the future, Len said. "I hope Chuck keeps the station going after we're gone, and I hope we get a salesman."

He added that he's been approached by interests wanting to buy the station. "But I've never let them get far enough to make an offer."

Len Mohnkern saw his biggest challenge as "keeping the station going."

"We are different because we don't have the bottom line or dollar sign always in mind. We have no real competition because no one else is doing what we are."

"Our greatest reward is the people who call and tell us they are grateful that we have it on the air."

Bill Ryan is a retired college professor and former broadcast news writer for UPI. He can be reached at wryan1807@aol.com.



Production Room

Introducing NexGen101

Proven Prophet technology now sold bit by bit.
Run your radio station for \$495! You buy only what you need.
Add on features as your budget allows.

Software Packages - Try NexGen101 before you buy!



NexGen101 Core License \$495 *Buy Now*

Runs a single station in Automated or Live Assist modes. The core license is required on all NexGen101 workstations, and includes the ability to create and execute logs, basic audio element production, day of the week clock templates, and audio backup/load utilities. All other modules can be added to the core license to create multiple workstation configurations.



Live Control Package \$400 *Buy Now*

Useful for high energy morning shows. Create and play audio elements outside of the log for random access or auto-play, send artist/title information. Includes following modules: Electronic Copy, Cart Deck, Button Bar and RDS Export.



Single-Source Satellite Package \$400 *Buy Now*

Enables your station to run in satellite mode and automatically record satellite feeds, with local spot insertion and time and temperature announcements. Includes following modules: Single-Source Satellite, Time & Temperature, DRR Automated Capture, and GPI.



Scheduler Package \$400 *Buy Now*

Schedule your station using either internal or external scheduling systems. Includes following modules: MusicGen101 integrated music scheduler, Traffic and Music Load, Multi-User Access.



VoiceTRAC Package \$400 *Buy Now*

Record breaks, intros and outros for when you can't be live, but still want to sound like it. Includes following modules: Basic VoiceTRAC, Enhanced Production Interfaces for third-party audio editors, CD Extractor/Audio Format Converter, and the Graphic VoiceTRAC Upgrade.



Buy Individual NexGen101 Software Modules for \$101 each

- Archive Module *Buy Now*
- Basic VoiceTRAC Module *Buy Now*
- CDX/AFC Module *Buy Now*
- DRR Automated Capture Module *Buy Now*
- Enhanced Production Module *Buy Now*
- GPI Module *Buy Now*
- Graphic VoiceTRAC Upgrade Module *Buy Now*
- MusicGen101 Module *Buy Now*
- One year NexGen101 Software Updates *Buy Now*
- One year NexGen101 Support *Buy Now*
- RDS Export Module *Buy Now*
- Single-Source Satellite Module *Buy Now*
- Time & Temperature Announce Module *Buy Now*
- Traffic and Music Load Module *Buy Now*

Check our website for a complete list of modules.



Proven Prophet Systems technology. Built by Prophet, backed by Prophet, designed for you.

Oneword Radio Speaks to Listeners

Spoken-Word Station in U.K. Has Something For Every Thomas, Dickens and Hardy

by Elaine Saunders

Being read to is a pleasure we learn in childhood, one that never fades. In a world where media often are accused of "dumbing down" or catering to our reduced attention spans, Oneword, based in the United Kingdom, aims to stimulate, challenge and promote thought.

U.S. listeners can hear it via the Internet; an earlier venture with Sirius Satellite Radio didn't work out.

Sales of digital radios are soaring in the United Kingdom. With this proliferation of interest, proponents say, comes an opportunity to offer listeners an intelligent alternative to music radio.

The BBC's World Service and Radio 4

have broadcast as speech-based stations for decades with a mix of news, documentaries and drama. But until recently, no channel has dedicated its airtime solely to the written word.

New approach

Oneword Radio began broadcasting in 2000 and considers itself the first commercial radio station in the world to devote its entire output to books, publishing and drama.

While most stations rely on record company catalogs for programming, Tim Blackmore, chairman of Oneword, says, "We wondered whether a station could be viable using the catalogs of the talking book companies."

After financial restructuring of the company last year, Oneword's national license came under the sole control of UBC Media, an independent producer of audio programming in the U.K. that owns other stations. Tim Blackmore is also group editorial director of UBC.

His son Simon Blackmore, who works for a sister company within UBC, says Oneword now takes its funding from spot advertising, program sponsorship and investment by the owners. They receive no government funding. The Blackmores declined to disclose the organization's income or budget for this story.

Oneword won the Sony Radio Station of the Year Award in both 2001 and 2002, and postings to fans' online forums show that listener feedback is enthusiastic.

The scheduling format is simple. Bestsellers in every genre, biographies and plays are broadcast in timed slots throughout the day so it's easy to tune in and follow a story from beginning to end. Weekend omnibus editions give listeners a chance to catch any missed episodes.

In between are interviews with authors, publishing news and clips from vintage radio shows. Thirty-minute segments are broadcast, although some readings run for over an hour and are broken up with teasers for future programs or short clips of music.

Oneword reaches approximately 60,000 listeners a week, transmitting on DAB Digital radio, through cable and satellite TV providers, the Freeview service and its Web site at www.oneword.co.uk. It has a dedicated fan base and response from visually impaired listeners has been encouraging, Tim Blackmore said.

While music radio provides the backing track to our lives, Oneword demands active listening. Its license mandate is to appeal to the widest possible audience with programs that make people talk and think about what they've just heard.

transmission from the U.K., it was intended to develop in-house programming with an American feel to fill the remaining air time.

Americans are the biggest audio book purchasers in the world, with annual sales in excess of \$2 billion, so the station's management hoped that Oneword's arrival would serve an eager market; but the partnership was short-lived. Sirius and Oneword were equal partners in the venture; eventually both decided it was not worth continuing, according to Simon Blackmore.



Tim Blackmore

Posts to online digital forums suggest an enthusiasm for British spoken word radio on the part of the American public. But Blackmore said there are no plans to transmit outside the U.K.

Oneword does not draw only upon existing spoken word resources. In an ambitious venture, it joined with Naxos AudioBooks to co-produce a series of plays and dramas that air on Oneword and are later available in stores as cassettes and CDs. Tim Blackmore hopes to work on similar projects or commission new works in the future.

Oneword also promoted "Lit Idol," the London Book Fair's search for new writing talent, in which unknown authors were encouraged to submit their work in the

"oneword" RADIO

Most of us read and enjoy novels but often don't have time open a book during the day. Oneword enables listeners to incorporate extra reading into their lives by packaging literature so it can be enjoyed while travelling or working around the home. Contemporary and classic authors are represented and listeners are encouraged to sample genres they might otherwise have missed, or to write their own reviews and comments.

Classic texts can prove difficult reads, but Oneword's presentation makes them accessible, even to younger listeners. An effort has been made to schedule reading of study texts during school hours to be used as the basis for discussion in the classroom.

Although those of retirement age might be said to be the original radio generation, Oneword has 23 hours of children's programming in its weekly schedule. Sensibly slotted in the late afternoon, they provide a welcome antidote to TV, encouraging children to abandon the visual in favour of the world of imagination.

In 2002, Oneword signed an agreement with Sirius to simulcast its output in the United States. In addition to 18 hours of

hope of securing a publishing deal.

As noted, Oneword went through major restructuring in 2004. The original owners of the station were UBC Media, The Guardian Media Group, Chivers Communications and Heavy Entertainment. Tim Blackmore said, "Heavy Entertainment withdrew early on, the Guardian exchanged its shares for shares directly in UBC and Chivers was bought by BBC Worldwide."

This purchase resulted in Chivers' 30 percent shareholding passing back to their original parent company, the Hong Kong-based USI Holdings.

Now the station is owned by UBC, which is exploring the possibility of a joint venture with Channel 4 TV. Simon Cole, UBC's chief executive, hopes the development deal will lead to the creation of the U.K.'s first bi-media commercial channel.

Oneword's faithful listeners also hope it is successful. It's a cliché that the pictures are better on radio; but Oneword suggests there is a need for thought-provoking output that holds the imagination longer than the latest catchy tune. 🌐

STATION/STUDIO SERVICES

VETERANS DAY NOVEMBER 11
HONORING AMERICA'S VETERANS

21 :30-SEC. FEATURES
available for local sponsorship

FREE DEMOS
available now

www.gracebroadcast.com

729 Sound Effects
on 5 CDs- \$100

Take \$10 off if you mention Radio World.

www.radiomall.com
Or call 800-759-4561

2412 Unity Ave N, Minneapolis, MN 55422

MAKE MORE \$\$ ON REMOTES
IP IS THE SOLUTION:

EASY INSTALLATION * BETTER PERFORMANCE * LOWER COSTS

SEND AUDIO, DATA, VOIP OR EVEN BROADCAST QUALITY VIDEO. SETUP YOUR OWN PORTABLE "HOTSPOT"

TELL US WHAT YOU WANT TO DO, AND WE'LL TELL YOU HOW TO DO IT!

THE IP/SATELLITE EXPERTS
RJB BROADCAST CORP.
OVIDO, FLORIDA

800-870-9233
WWW.RJBBROADCAST.COM

SPACE AVAILABLE

Call Simone For Details
1-703-998-7600 ext. 154

VETERANS DAY • SHOP HOMETOWN MERCHANTS • THANKSGIVING • CHRISTMAS • NEW YEARS • DON'T DRINK & DRIVE

WE PROVIDE THE IDEAS.

YOU PRESENT THEM TO CLIENTS....

...AND BUSINESS GETS BETTER!

GBS SALES BOOSTERS - FULLY PRODUCED :30- AND :60-SEC. FEATURES

"Just want you to know how successful our "SHOP AT HOME" Campaign is. So far, we have sold 29 packages at \$500 each...." -FL.

"With your holiday series we sold about \$11,000 worth of greetings in this, our first holiday season on the air...." -TX

GRACE BROADCAST SALES
Toll-free 1-888-472-2388
Sound Ideas for Building Business™

FREE DEMOS & SALES TIPS!
www.gracebroadcast.com

ATTENTION PROVIDERS!

Promote your services to **Radio World's** readers. Reach Radio Station and Recording Studio owners/managers and engineers with your message.

For information on affordable advertising call **Simone** at 1-703-998-7600, ext. 154.

Help Out a Student You Know

by Mark Lapidus

"Mr. Lapidus, can you point me in the right direction to get started in radio?" read the unsolicited e-mail I received a few days ago. "I just graduated from college with a degree in mass communication, and what I'd really like to do is work at a radio station."

Out of curiosity I opened the résumé. From an academic perspective, it was impressive. He had graduated cum laude. He spoke fluent French. He was a member of a fraternity. However, if he'd ever even been inside of a radio station, I didn't see that listed.

in anything."

This story has become so common, I'm surprised when I'm contacted by a recent grad and *don't* hear it.

Do anything

It worries me a great deal because I'd like to see us, as an industry attract, and be able to hire bright students like the one I described. But students who don't get some experience in media prior to graduation will find it difficult to enter.

I'm writing this article with the hope that you'll pass it along to young people in the early stages of college or broadcast schools, so that they have time to do

may be able to help in other departments.

You'll learn that consolidation has left stations with small staffs that often need an extra hand. It's that extra something that can you put in contact with mid- to upper-level managers who have their eye out for young talent. Even if they don't notice you, you'll be learning how a radio station operates.

Variety

Once the first internship is over, try for another at a different station.

This time you may want to be more specific about which department you'd like to intern in; by now you'll have more familiarity with how things operate. If your school only allows one internship for credit, ask if you can do a few more as extra credit. It doesn't matter if those hours really count toward your degree. The important part is the experience.

In fact, it's not unreasonable to try to do an internship every year you're in school. While it may be tempting to do them all at the same place, I recommend against this; it cuts down on your exposure to people and situations.

Your second route to experience while attending school is to find a part-time job at a radio station or media outlet. Again, in the beginning it doesn't matter what you'll be doing. If they need help answering the phones, take it. If they need help sending out bills, take it. If the promotion department needs help with event setup, take it (but bring a change of clothing).

By the way, working part-time doesn't mean you shouldn't also do an internship somewhere else.

Find a niche

What if you want air work?

The answer could occupy an entire column; but in short, you've got to get started as young and as quickly as you can, at a station of any size that will take you. This may mean starting at that sta-

Promo Power



by Mark Lapidus

tion two hours away by cleaning trash-cans and then learning how to use the equipment by running high school football games or Sunday morning religious shows.

Yes, volunteering at your college radio is a great idea. You should do it. However, don't get sucked in to the degree that you don't branch out to get commercial broadcast experience. There are few natural talents in radio; you'll want to work on-air as many hours as you can; but commercial and college radio have different standards.

What if you're an artist and you want to work on station Web sites? Wonderful! Become an expert with Photoshop, then call up your local radio station for an internship or part-time job. If you work there for even six weeks, you'll come away with a large portfolio of pop art you've created.

How about a career in engineering? Everything I said applies. The only difference is that with engineering, you gotta be really smart!

Okay, I'm only half-kidding.

I'm happy to answer any questions from young people about careers in radio. Just e-mail me at the address below.

The author is president of Lapidus Media; reach him at marklapidus@yahoo.com.

I'd like to see us as an industry attract and then be able to hire bright students.

The following day, the young man followed up with a phone call.

"Hi! I'm calling to follow up on my résumé. I wanted to make sure you received it and I'd like to find out what opportunities may exist in your company."

I told him that I was impressed with his academic achievements and went on to question him about internships or part-time work he may have done in broadcasting or with an Internet company.

His answer was what I'd expected. Unfortunately, he'd never found the time to do an internship; and he'd spent summers traveling, so there had never really been any time for an internship or part-time job at a media outlet.

When I asked what he'd like to do at a station, his response was, "Gee, I'm not really sure. I'd pretty much be interested

something about their future.

What should students do to be better prepared to compete in the real world of broadcasting? There are several ways to gain experience while attending classes.

The first is the obvious, an internship. Find a station that will put you to work — doing anything.

It doesn't matter if this means putting files in order in a sales department. Your mission at first is to observe and make contacts. If you're assigned simple tasks, don't for a moment think that it's "too easy." If you do, I guarantee you'll make mistakes; and when that happens, the very people you're trying to impress will have a negative reaction.

In any normal situation, once you're at a station for a few weeks you can begin asking questions and find out how you

TECH UPDATE

StudioDrive Functions As Broadcast Console

Henry Engineering says its StudioDrive, a broadcast mixer that fits in the drive bay of a PC, is suitable as an audio console for PC-based radio automation, and serves as a missing link between the PC's soundcard and the studio.



StudioDrive accepts six audio sources via four mixing channels. There are inputs for one mic, four stereo line sources and the telephone coupler. Provisions are included for external mic control, a "cough switch" and control of on-the-air warning lights. The monitor system features mic-on muting, and an Air input to monitor the station's off-air audio.

Two independent stereo mix bus outputs feed a live mix to the transmitter, and a mix to the PC for recording via the sound card. When StudioDrive is used for PC audio production, such as editing or mixing, the output of the soundcard can be monitored, so the operator can hear what is being mixed or edited on the PC.

StudioDrive's telephone coupler records audio from a POTS line, such as in the instance of recording a news actuality or the tag line of a spot. A mix-minus output is included for use with a telephone hybrid, if one is needed. A VU level display and isolated outputs for headphones also are featured.

For more information, including pricing, contact Henry Engineering in California at (626) 355-3656 or visit www.henryeng.com.

A Rectifier To Fit Your Transmitter

No matter what transmitter you own, we can provide quality rectifiers from stock. We have a reliable, cost-effective solution to meet the requirements of most AM and FM transmitters built since the 1950s at prices better than the manufacturers'.

We Have CCA Rectifiers

Rectifier Upgrades Available
Same Day Shipments

www.rectifiers.com
800-649-6370

Buyer's Guide

Tech Updates
Inside

Radio World

Automation & Digital Storage

October 20, 2004

USER REPORT

NPR Affiliate Updates With Prophet

by Chris Halm
Engineer
South Dakota Public
Broadcasting
KUSD(FM)

VERMILLION, S.D. When NPR announced that it would be replacing the Satellite Operating Support System with the Content Depot digital asset management system, our South Dakota affiliate was forced to take a serious look at replacing our automation system, built in 1995 — the same year I graduated high school.

Not only was age an issue with the system, it lacked the storage and file-transfer needs required by Content Depot. With the new system, South Dakota Public Broadcasting's audio feeds would be delivered via two methods —

audio sent as a stream for live events, and as a file for recorded material.

Program Director Matt Weesner and I toured several stations, each one using a different automation system, and spoke with the board operators and engineers for their opinions. After two months of the selection and bidding process, we purchased the NexGen2 system from Prophet System Innovations. The system PSI designed for us fit our needs, and is so flexible in configuration that the size of your station and your station's needs are irrelevant.

Nuts and bolts

Our system features a Dell Power Edge Server, providing the audio and log storage. We anticipated a greater reliance on our automation system,



The author reviews the on-air log using the Prophet Systems NexGen control room.

specifying a server much larger than our current needs demand.

Each workstation has the same internal hardware, except for sound cards. The two control room computers and one production computer are equipped with a two-stereo input/ two-stereo output AudioScience audio card. The production computer, which also operates as our "digital reel-to-reel" computer, is equipped with a four-stereo input/one-stereo output audio card.

The computers are running on Microsoft Windows XP Professional and the file server operates with Novell Netware 5. NexGen operating on Windows XP ensures the stability of the NexGen program. The only time a reboot is necessary is for a software update.

Each workstation connects to a Broadcast Tools 8.2 switcher, providing us with plenty of sources to air or to record. The digital reel-to-reel captures our entire network-fed audio and pushes it into the server, while updating file information such as total record time and record date.

Symantec's PC Anywhere allows us remote control of the system from any location that has a phone line. It also offers a Web-based program called VNC that provides the same functions as PC Anywhere.

NexGen was designed with third-party audio editing software in mind. We use Adobe Audition, which integrates as smoothly as NexGen's home-built audio editor. The robust file server has four hard-disk drives in a RAID 5 configuration with a fifth as a hot standby. Each workstation contains a pair of hard drives in a RAID 1 configuration. The system performs a daily overnight routine, beginning at midnight, and consisting of generating new logs, deleting expired audio and backing up the logs and audio.

The "on-air" portion of NexGen software is user-friendly, making it easy to train others how to use it. The learning curve for our on-air staff was fast, only a couple weeks, compared to the couple of months that our previous system required.

The user interface is like most other Windows-based programs, and the software is kept up to date by downloading updates from PSI's Web site and calling technical support to unlock the software key to the update. If a person has a suggestion for future versions of NexGen, the design team tries their best to integrate those recommendations.

PSI's strong suit is its technical support. Every technician, from the installers to the phone support technicians, has been knowledgeable and eager to resolve issues quickly.

For more information, including pricing, contact Prophet Systems at (308) 284-3007 or visit www.prophetsys.com.

TECH UPDATES

Latitude Enables Content Management From Central Hub

Latitude Edition from D.A.V.I.D., based on the company's DigaSystem, is a scalable radio station operating environment.

The basic setup includes three workstations, one server and networking components. Latitude comes with installed software and leverages a standard configuration. It is customizable, with options for feature enhancement.

The system enables broadcasters to manage audio content from a central repository, so staff members are editing content and sharing information in real time. It offers search capabilities, as content is stored in one place on the network instead of traditional methods such as carts, tapes or CDs, which can be lost or stolen.

Latitude Edition includes material gathering sources such as microphone, ISDN and CD ripping, as well as background recording. Organizations can record time schedule-based multiple inputs automatically, when a level is detected on an input channel, or from the control room via a relay switch.

The system's Database Manager stores content using descriptive information designated by the user and included with each audio file, as well as graphics, video clips, URLs and text transcriptions.

The Multitrack Editor offers four pages to optimize workflow and preserve metadata. It supports ActiveX plug-ins, and provides auto-ducking and a user-intuitive interface, which helps stations get content in, edited and on the air.

Latitude's Scheduling Tool schedules up to one year ahead, and controls satellite switching, up to 16 relays. Voice track playlists are scheduled, and traffic and billing or music rotation logs can be adjusted with the playlist creation and management program. The scheduler is XML-based, so multiple users can edit a show simultaneously, and updates are communicated to the on-air system through an active server process.

The Broadcast and Broadcast Utility servers allow organizations to determine the level of automation necessary for their business. Clients can automate individual processes such as switching input sources or building switching schemes to wholly automate a station's broadcast functions.

Latitude Edition has distribution tools that enable cus-

tomers automatically or manually to transfer assets/productions to and from the station, so organizations can share licensed content across production facilities and allow remote transfer of data to and from the station.

For more information, including pricing, contact D.A.V.I.D. in Virginia at (866) 413-2843 or visit www.latitude-edition.com.

Maestro 3.3 Eases Recording, Importing

Computer Concepts has an updated version of its Maestro digital audio system. The company says version 3.3 features faster server startups, more control over broadcast and traffic details, easier importing and non-proprietary hardware.

Recording features include expanded music cart headers, enabling song information to be entered directly into the Maestro system. The operator does not need to connect to an external music database to make changes to music headers. Expanded spot cart headers allow the operator to update relevant information for spots by clicking the "More Info" button, which brings up the "Spot Info" window. Dayparts can be set, and outcues and tags can be entered.

When a spot is playing, hover the mouse over the deck to display "Tool Tips," which shows the detailed cart header.

Maestro's audio import feature converts an imported file to your preferred sample rate and compression type.

Version 3.3 supports Broadcast Tools' 16x4 switcher, and features support for an inexpensive analog four-channel audio card, the AudioScience 4434.

For more information, including pricing, contact Computer Concepts in Dallas at (800) 255-6350 or visit www.computer-concepts.biz.



SH SHOWCASE SE

Products & Services

raduga.automation

Automate Your Station in Minutes
...No Degree Required

NEW! Just Released v3.8

- Extremely Easy To Use & Understand
- For All Stations, All Formats
- Schedule Spots, ID's, Build Rotations
- Plays All Audio File Formats
- Complete Automation Systems Available
- AirList Music Scheduling Software Only \$259
- Music Libraries Available

...Did we mention **FREE SUPPORT**

Raduga Software



Download your FREE Demo Today
www.raduga.net/rw.htm
(513) 887-0714

Low as \$149* Buyout

The Voice Tracking Specialist AIRcorp Pro-Announcer 500PH



- Now All Studios Can Sound Alike
- Consistent Voice Quality Throughout
- Amazing Downward Expander Eliminates Room Noise
- Absolute Level Control

**We build them for professionals.
We build them for you.**

Call your AIRcorp dealer today, or call AIRcorp at 972-304-0455
www.aircorp.biz



- ✓ Competitive Prices
- ✓ Extensive Rental Fleet (RF Codex Test Equipment, Audio)
- ✓ Experienced Staff
- ✓ Used Trade-Ins Welcomed
- ✓ New and Rebuilt RF and Audio
- ✓ Custom Studio Design and Furniture
- ✓ Representing Over 600 Quality Manufacturers
- ✓ Turnkey Installations Available

You Know We Know Radio

800-438-6040 • www.scmsinc.com • Fax 704-889-4540

79,507 SIZES...IN STOCK!



A New "Patent Pending" Rack Design 4 RU 13" Deep - \$159.85
Assemble Any Size Rack Using Only 3 STOCK Parts 43 RU 30" Deep - \$264.85

3 precisely engineered parts when connected together form Wiggle-Free equivalent strength and integrity of fully assembled welded rack enclosures. Choose any width, depth, & height of dual-tapped E.I.A. rack rail from one of 43 sizes in 1-3/4" rack unit increments. Ships knocked-down in 3 small cartons. Build all kinds of neat stuff!

Shop Online

www.starcase.com/rack.htm

(800)822-STAR (7827)

(800)782-CASE (2273)

CircuitWerkes Control Solutions



DR-10 Dial Up Controller & Remote Broadcast Interface

- The DR-10 is a Dial-Up remote control with telephone audio input and output for remote broadcasting.
- If your automation works with satellite networks, you can use the DR-10's relay outputs to fire commercials, liners, etc.
- Use the DPDT relays to insert the phone audio directly into the program path when necessary, especially for emergencies.
- When used with our Silencer Option, the DR-10 is the **ONLY** product available that will completely remove DTMF control tones from the audio path for extra clean remotes.



pREX Programmable Relay Multiplier & Converter

- 12 optocoupled inputs and 16 CPU-controlled relay outputs.
- Control any output or a group of outputs from a single contact or from a group of GPIOs using logic modes like AND, OR, XOR, NOR, NAND, NXOR, Interlocked, etc.
- Output modes include: Momentary, Toggled, Leading or Trailing Edge, Pulse Stretching up to 45 hours, Input Debounce, Maximum On-time, Minimum On-time and more.
- Program or control the relays by serial port using terminal or GUI.



GENr8 Programmable DTMF Tone Encoder

- The GENr8 is a powerful, yet inexpensive DTMF Generator that can produce either single DTMF tones or can record and play DTMF sequences up to 20 digits.
- Active, balanced, audio input and output lets you mix DTMF and program material without an external mixer.
- Program or control the GENr8 by serial port using terminal or our free GUI.
- Optically isolated inputs work with external contact closures to send tones or program the GENr8.

Learn how you can take control at www.circuitwerkes.com



CircuitWerkes, Inc. - 2805 NW 6th Street, Gainesville, Florida 32609, USA. 352-335-6555

WEATHER RADIO

Model CRW



Price \$540.00

Sensitivity .28 microvolts for 12 dB quieting. All 3 frequencies. Alert tone demutes receiver, closes relay and gates audio to 600 ohm rear terminals. Another set of rear terminals has continuous 600 ohm audio output. Double conversion crystal controlled, crystal filter in first I.F., ceramic filter in second I.F. Dual gate MOS FET front end. 50 ohm coaxial input. Adjacent channel (± 25 kHz) down to 70 dB. 19" rack mount, 3.5" H, all metal enclosure. In stock—available for immediate delivery.

GORMAN REDLICH MFG. CO

257 W. Union St. • Athens, Ohio 45701

Phone 740-593-3150 • FAX 740-592-3898

www.gorman-redlich.com/jimg@gormanredlich.com

USER REPORT

Regional Group Automates With OAD

by Scott Alexander
President/CEO

Alexander Broadcasting Co. Inc.
Scott Communications Inc.
Great South RFDC LLC

SELMA, Ala. Alexander Broadcasting Co. Selma operation WALX(FM) has been using On Air Digital products since OAD was the technical arm of TM Century, a period spanning over 12 years. In that time, much has changed for us as well as for OAD.

I kept in mind the reliability of the On Air Digital system and how it has performed for us at Alexander Broadcasting, and when Paul Reynolds and I formed Great South Wireless, a rapidly growing regional group in Alabama, I knew what systems to install in our group stations — OAD Linux-based solutions for studio systems and media distribution.

We chose On Air Digital as the supplier for our regional group here in Alabama. Great South Wireless has an Alexander City, Ala., facility that houses two radio stations: WZLM(FM) and WKGA(FM). We now have a total of five systems, with a couple more to be added later this year.

Dual system base

The OAD RadioSuite system centers around two operating systems. Linux is used for 24/7 critical applications like the on-air studio system, while Windows is used for applications that are less critical and have an abundance of applications to work with.

The Windows-based tool that OAD uses to integrate Windows media applications into the Linux-based RadioSuite System is the RadioSuite Explorer. It looks and operates much like the Windows Explorer that you use to manage your file folders. User defined folders are on the left part of the

screen, while the contents of each folder are on the right.

In our Alexander City facility, where we have two of the OAD systems we can click the station and directory set at which we want to look. The file folders are user-definable, and help in managing the station's inventory. The contents of each folder show the cut number, title, artist, length, run time, start date and end date.

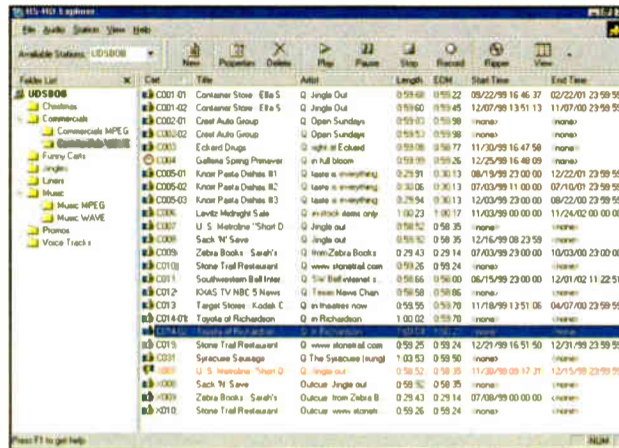
There also is a set of symbols that tell me the status of each file. For instance, if the characters are red, I know this is a cut number with no MPEG or WAV file attached to it. There is a symbol that indicates if the file is not legal, outside the start and end date. A thumbs-up means all is well, and a period over the cut means it is the next one to play in a rotation.

The RadioSuite Explorer includes what OAD calls a reference file generator. Unlike systems with prepended headers on the audio file, the RadioSuite system uses a separate reference file that points to the object file, a WAV or MPEG file. This contains all the information about the audio file. Because it is separate from the audio file, it can incorporate files downloaded from the Internet or from competitive systems easily.

The system has the ability to set different cue-in and end-of-message points on the same audio file, eliminating the need to keep multiple copies.

An example of this application would be during drive time, when there is a point in an old classic rock song where it can be ended gracefully, if necessary. Once you

input the information, hit the browse button and hook the reference file to the object file. You can then audition the file, set the cue-in and EOM with the touch of a button. Advance via the mouse to the end of the selection to set your EOM. The system includes VU meters, so EOMs can be set at pretty precise levels.



RadioSuite uses Windows as well as Linux.

RadioSuite Explorer includes a simple recorder. We use what is now called Adobe Audition with our systems for more complex recordings, and AudioGrabber for CD ripping. RadioSuite can use virtually any Windows-based editor, ripper or media tool.

The actual studio automation system is a combination of two applications: RadioSuite HD and the UDS II. In the last few months, OAD has combined these two into one CPU; both the RadioSuite HD and the UDS II are now running on Linux. Our Alexander City facility was the first to get this configuration along with the client/server configuration, eliminating a computer from the prior setup and giving us an additional layer of redundancy.

The system not only keeps a mirrored

copy of the facility's inventory on its dual 120GB ATA100 drives, it also keeps a copy of each station's inventory of its studio automation. In a state like Alabama, second only to Florida in lightning strikes, that is a great level of comfort.

The RadioSuite HD is the media engine. Our older systems are equipped with the Ensoniq PCI-128 SoundBlasters, which will be upgraded soon to AudioScience cards. Our newer systems are equipped with the AudioScience ASI5111 sound card. Because the RadioSuite HD does its encoding and decoding in the software, we have a choice of using the less expensive consumer cards or the professional cards. Our systems can intermix WAV, MP2 and MP3 files, and at different sampling rates, to boot.

The UDS II is the legacy controller that has always been, and continues to be, one of the best live-assist controllers on the market. Now running on Linux, this application gives the operator everything he needs: large Intro and Outro timers; pages of 10-cut HotKeys and an editor that makes a request show a piece of cake. When there is not an operator present, RadioSuite can handle as many as three live satellite feeds using an inexpensive Broadcast Tools switch.

We are now laying the framework to integrating the RadioSuite Sync program, which enables each facility's server to synchronize to individual folders from a master. This will allow us to do music, traffic and audio elements from a central location and make sure they end up in the right place.

RadioSuite is not the fanciest system in the industry, but it is a system you can leave unattended at night and know it will be up and running in the morning. Staff training has been a breeze with the system's user-friendly nature. Stations to which I have recommended the On Air Digital system have put it online and come back to me with the same positive comments.

For more information, including pricing, contact On Air Digital in Dallas at (972) 481-8700 or visit www.onairusa.com.

Products & Services

SHOWCASE

ONE product, TWO solutions!

It's **AUTOSWITCH**, an automatic audio switcher!

AutoSwitch eliminates that annoying "digital echo" in DJ headphones by switching the headphones from Air to Local audio when the mic is on.

It's also an automatic silence sensor, and can switch your audio to a backup source if the main source fails.

Now in stock at all Henry dealers.



We Build Solutions....(two in one box!)



NEW!

www.henryeng.com 626.355.3656



GET GEAR HERE



CALL TODAY. TALK TO A PRO.



800-356-5844

VIDEO LIGHTING STANDS CASES CABLES SOFTWARE AND MUCH, MUCH MORE

MICROPHONES HEADPHONES MIXERS CD PLAYERS DIGITAL RECORDERS SIGNAL PROCESSING AMPLIFIERS SPEAKERS KEYBOARDS GUITAR EFFECTS VIDEO LIGHTING STANDS CASES CABLES SOFTWARE AND MUCH, MUCH MORE

USER REPORT

WAYG Merges Vault², Console, Router

BE's Systems Enables CU Radio to Originate Content From Either Studio for Two-Way Transfer

by Tom Bosscher
Director of Broadcast
Engineering Services and
Technology
Cornerstone University Radio
Cornerstone University

GRAND RAPIDS, Mich. Hard-drive automation systems have matured over 10 years, and most manufacturers' systems offer an extensive list of options.

Cornerstone University Radio of Grand Rapids, Mich., owns FM stations WCSG, WAYK, WAYG and KTEO. In addition, they uplink "His Kids Radio," a 24-hour children's (ages 2-12) Christian format, and Mission Network News, heard daily on more than 900 stations.

At WAYG, we own and operate four radio stations and two networks. Fifteen years ago, CU Radio installed its first Broadcast Electronics AudioVault system,

the AV-100, which offered proprietary audio cards and delivered a broadcast facility exceptional performance.

Today, the BE AudioVault² uses standard Digigram audio cards, allowing the customer to choose how many ports and analog or digital inputs and outputs. We have moved into the Vault² world over the last five years, and this past spring we merged Vault² with a three-engine Logitek digital audio console and router system at our Grand Rapids facility.

Studio swap

Vault², a third-generation AudioVault system, features the Vault suite of program-

ming, production and editing functions, and is compatible with different types of architecture in a wide-area network.



The WAYG Studio at Cornerstone University Radio

It differs from previous AudioVault generations in that it is Broadcast Electronics' first open-system digital audio system. As a result, Vault² software is compatible with workstations that require the flexibility of SoundBlaster cards, and servers requiring the stability of Digigram cards. The system takes advantage of off-the-shelf hardware and software, and is compatible with major traffic systems, the Internet, satellite and other communication protocols.

Our station in Kalamazoo is 60 miles from our main facility in Grand Rapids. A dedicated T-1 line interfaces the two cities. The studio in Kalamazoo is skyline-challenged and not in the line of sight of the required satellites that send it satellite-relayed programs, so they are automatically recorded in Grand Rapids and shipped down to the Kalamazoo studio without any human

interaction. The two "WAY-FM" stations swap originating studios back and forth throughout the broadcast day. The Vault² servers keep each one updated with newly recorded or edited material.

One concern of today's broadcast engineer is bringing the amount of down time for any station or network to the lowest practical level. In the case of CU Radio, all main servers have an assigned back-up server. Additionally, each on-air operation has a back-up on-air computer located in its control room. In reviewing the maintenance logs for the last three years, the only time we use the back-up servers is when we switch over to them for testing, updating software or reprogramming for staff-requested items on the primary systems.

Broadcast engineers also are concerned with having equipment that announcers can use and enjoy using. Our staff says Vault² has a clean and legible graphic layout. You can label a cut with any combination of alphanumeric. You are not limited to just a number, which allows the cut-naming nomenclature to follow practical formats.

One small but useful feature built into the BE software is AvTime, which allows you to designate two computers to serve as the master and back-up time-setting computers. We have the master set in Grand Rapids and the backup in Kalamazoo. In normal operation, the Kalamazoo computers get their time set by Grand Rapids, but if the T-1 link fails, the Kalamazoo backup keeps them on time. These time-setting computers can be set themselves by network contact closures, Internet time setting programs or in our case, GPS clocks.

Three of our control rooms also use a feature of a playback deck, called Quick Start. With this, you can load a cart with up to 24 audio clips, plug in a Broadcast Tools PBB-24 and the announcer just has to press any one of the 24 buttons to trigger that deck.

There are many high-quality and stable hard-drive systems out there, and Cornerstone University Radio management is satisfied with its purchasing decision — and even happier with the feedback from the working staff.

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

TECH UPDATES

Arrakis Has Xtreme Software With Docking Station

Arrakis Systems' Digilink-Xtreme radio automation system is available as software-only or with docking station hardware.

As software, the company says Xtreme is suitable for air, production and scheduling. It does not require a special sound card and uses Windows sound built into off-the-shelf PCs.

Arrakis provides the sound cards, switcher and logic in a compact black box named the Bridge, rendering a PC an unmodified, off-the-shelf unit that can be locally serviced. The Bridge can be installed and supported by a local radio engineer. If there is any problem with the Bridge, Arrakis says, it is replaced by free of charge under the Xtreme Solutions program.



Arrakis provides Xtreme's sound cards, switcher and logic in a black box called the Bridge.

Xtreme is dual-play for on-air and cueing. The on-air audio output can be a mix of three audio files in linear, MP2 or MP3 formats.

Xtreme supports features that allow the automation system to meet air format types or styles such as timed events; drop events for over-scheduling; autofill of missing or out-of-date carts; RS-232 serial control events and random liner events.

The company says the software-only Xtreme is designed for hard-disk, audio-based radio, where on-air audio events are produced or recorded to hard disk and played to air. Direct source events like network feeds are not physically switched to air, but are recorded and delayed. This type of disk-based automation enables greater control over on-air sound.

If control of external sources such as network feeds is desirable, a Model III docking station is added. The software detects the docking station and configures itself for the additional features. A radio audio library of songs, spots, beds and jingles are stored on your PD hard

drive and played back through the docking station, which has the switcher and logic hardware for full-satellite automation. The system supports live on-air automation, live assist, hard disk-based automation, satellite automation or combinations of the four.

For more information, including pricing, contact Arrakis Systems in Colorado at (970) 461-0730 or visit www.arrakis-systems.com.

Digital Juke Box Pro Offers Time Stretch, Shrink

The Pro Version of the Digital Juke Box automation system offers full automation, satellite or jock-assist, in addition to telephone and e-mail support. The company says one production system will run multiple on-air systems, and software is included for on-air, production and CD ripping. On-screen weather updates with Digital Juke Box's NowPlay software require an Internet connection.

Features include EZ Time and Temperature Announce cuts for each jock at the station, with weather updated twice an hour; quadruple overlap audio with an audio card; voice-tracking; and digital audio editor. Standard Windows audio files, such as WAV, MP2, MP3 and OGG, can be recorded and played, and audio cuts produced outside Digital Juke Box software can be imported.

Additional highlights include program log editing while the program log is on-air, expanded walk-away time and the ability to create schedules in advance.

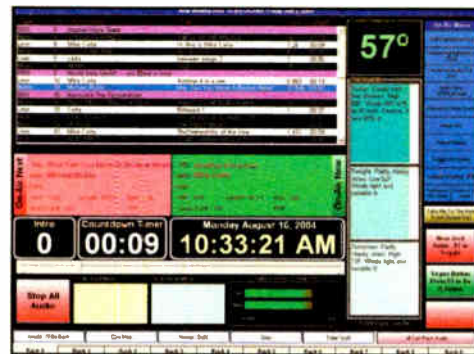
Time can be stretched by 5 percent to make 28-second spots into 30-second spots without changing pitch; conversely, time can be shrunk by 5 percent to make 32-second spots into 30-second spots. Silence is trimmed from the beginning and end of audio cuts.

Music scheduling software with 52 audio categories is featured, and the company says scheduling shells can be created in plain language.

Traffic is imported from Natural Log, The Traffic Lite, CBSI, Darts, Superlog or RDS Traffic. Audio can be imported from any digital editor, making it unnecessary to dub it in real time from one computer to another.

Digital Juke Box requirements include a modem PC computer, Windows XP, speed above 1.5 GHz, 256 MB memory and 40 GB hard drive.

For more information, including pricing, contact Digital Juke Box in Ohio at (740) 282-7638 or visit www.digitaljukebox.com.



TECH UPDATES

DaletPlus Radio Suite Has Autopilot, Navigator Modes

Dalet Digital Media Systems says the DaletPlus Radio Suite provides tighter workflow management and facilitates collaboration across multiple teams and outlets.

DaletPlus Radio Suite

The suite's On-Air module is used for controlling playout of scheduled run-downs, such as audio files that correspond to news bites, songs, commercials and jingles; scripts that are to be read by an announcer; stories that comprise scripts and audio files; and macros that ensure external control commands, like regional cutaway and triggering of external equipment.

It can be configured and used in different modes depending on the requirements and responsibilities of the user.

DaletPlus has autopilot mode for automated playout, and navigator mode for live-assist.

In navigator mode, the company says, DJs and producers are in control. The playlist is displayed as a single list but four audio outputs can be assigned for playout. DaletPlus Navigator is integrated with a mixing console, and a fader or button is associated with each channel. When an operator pushes the button or raises the fader assigned to a channel, the next available item on the list is broadcast.

Live mixes between songs are possible, and playout channels are independent. For example, while a title is playing on Channel A, the DJ can launch a music bed or jingle on Channel B and then fade-in the next music title on Channel C. The operator can modify this list at any time by drag-and-dropping titles from DaletPlus Radio Suite's BaseBrowser feature.

For more information, including pricing, contact Dalet Digital Media Systems in New York at (212) 825-3322 or visit www.dalet.com.

BSI Simian Features Language Interface, File Labeling

Broadcast Software International says its Simian digital audio automation software uses the Windows environment to provide features not found in more expensive systems, such as a multilingual interface and the ability to run other programs, generate Web pages with playlist information and remote error notification and control via e-mail.

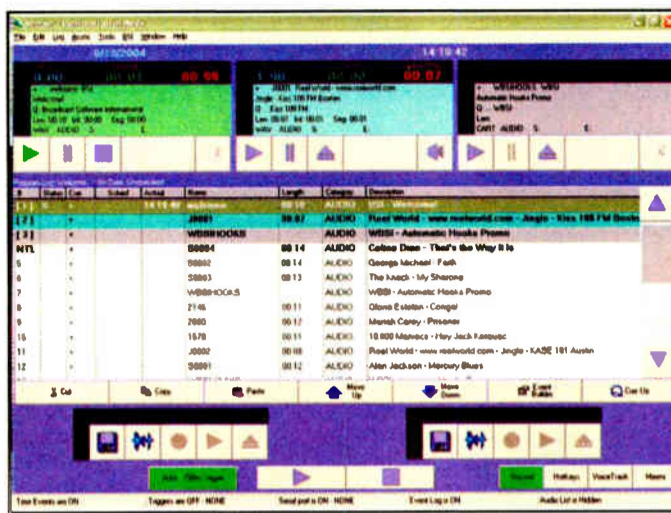
Spanish is one of several alternate language interfaces that Simian can use. Languages can be switched while Simian is running.

Music is recorded onto a hard drive with a choice of editing or recording software, and is played according to the program log. Simian is equipped with BSI's audio file labeling technology, which allows the insertion of information into the audio file. If files are transferred from one PC to another, or to another station

via e-mail, the label information goes with it.

Simian runs automated or as a live-assist system. In automation mode, satellite or hard drive, the software will run unattended. In live assist, the operator can make changes to the program log while Simian is playing. The operator can edit the log for a different time of day, without interrupting the software.

Simian uses Microsoft standard audio



files, compressed or non-compressed; MP2, MP3 files, via codec; and TM

century files. Other programs can be run on the same PC while Simian is running. Remote control is by way of software such as the company's WebConnectPro or Symantec's PC Anywhere.

The software imports program log data from most traffic management or music scheduling systems. The variable import filter eases log import, and BSI says many major traffic and music system manufacturers already have its format on their systems. If a traffic system is unavailable, logs can be built by dragging files onto the program log screen.

Simian software can be downloaded from the company's Web site.

For more information, including pricing, contact Broadcast Software International in Oregon at (541) 338-8588 or visit www.bsiusa.com.

FREE VOICE TRACKER SOFTWARE FOR FREELANCE JOCKS

Announcers with a home studio computer that can surf the Internet can now get Scott's VTVI Voice Tracker via Internet software free.



Track hours of shows...in minutes
Voice tracking via Internet is like tracking at a station, except you save lots of travel time. Song endings and intros play in your headphones so your voice and pacing matches the music. Scott voice tracking takes only a little longer than the actual talk time of your show.

How it works
As soon as the station creates the next day's music schedule, Scott Studios' **1-888-GET-SCOTT**

VTVI Server at the station puts that log on your home studio computer. Every voice track in your shift triggers surrounding songs or spot to be telescoped, compressed and the tail or head transferred to your computer. As soon as you see the log, you can record. VTVI works faster than you.

Every set sounds perfect!
Thousands of Scott Studios' client stations voice track. Most sound smoother and better than live!

After you record, you can hear how you'll sound or move on. You can edit the segue, fine-tune levels and tweak timing. You can save that but do another take and use whichever's better.

Features you can't get anywhere else!
Scott gives you exclusive automatic voice-over level control, Auto-Post and our Voice-Music Synchronizer. When you mention song titles or artists, click the Link box in the song label. If that song doesn't play, then that linked voice track won't play either. SS32 substitutes an appropriate generic track.

Turn out the lights, nobody's there
When you move on to your next Voice Track, the previous cut uploads to the station over the Internet. Scott Studios' VTVI Server automatically puts it into their air studio without anybody touching anything.

Fail-saves are built in
VTVI can send emails, notify pagers or SMS cellphones when logs are ready. It can also remind you as deadlines approach and alert station people if tracks haven't arrived. You can record "evergreen" tracks that automatically fill in if a fresh set isn't done in time.



As many stations as you can handle
VTVI works with any city or station. Call letters, slogans and promo copy displays correctly on screen for each.

Scott's VTVI is the money maker freelance jocks have always wanted! Get more info from VoiceTracker.com or call 1-888-GET-SCOTT.

Scott Studios
13375 Stemmons Freeway, Suite 400
Dallas, Texas 75234 USA
A dMarc Broadcasting Company

USER REPORT

KKDA Makes the iMediaTouch Switch

OMT Suite Offers Audio Library; Cart-Faithful Ask, 'Why Didn't We Do This Sooner?'

by Gary Wachter
Director of Engineering
Service Broadcasting 1 Ltd.
KKDA(AM-FM), KRNB(FM)

DALLAS This past August, KKDA(FM) "K104" had the unique opportunity to broadcast live from the 2004 Athens Olympics. Also unique was that our DJ felt right at home even though we were eight time zones away. What made the difference was displayed on a notebook computer in the Coca Cola Radio booth.

The identical iMediaTouch screen in the Dallas control room was glowing in front of us. Not only were the current and upcoming events visible, our iMediaTouch system enabled us to make real time changes and take full control.

A secure Virtual Private Network (VPN) connection was established through the Internet from the K104 studio to the DSL line in Athens. Just a few years ago this scenario would not have been possible.

Service Broadcasting 1 Ltd., the parent company of K104, was among the first broadcasters to venture forward and deploy digital on-air playback. It turned out to be a costly learning experience.

The hot then-new system — from a manufacturer that is no longer in business — was proprietary, difficult to use



The author poses with the iMediaTouch system in the Coca-Cola Radio Booth at the 2004 Olympics in Athens.

and kept breaking down. After several total failures, the return to CDs and carts was inevitable.

This retreat to tape could not go on indefinitely. Audio quality issues and lack of cart machine parts mandated a change, but on-air talent did not want to give up control of physically pulling carts and CDs. We hoped to conquer this issue, and also improve upon our

previous digital experience. As the leading station in a major market, we could not compromise the on-air prod-

lite programming. In Decatur, all four stations are "live" with differing music libraries and news networks and remote broadcast activities. In Mattoon there are three live-announce formats and one satellite (Westwood Oldies), plus different news networks, such as ABC and Fox. Effingham's studio operates one FM station live-announce, and an AM talk station with automatic multiple cut-ins from a variety of networks.

Along comes Linux

Over the years, Smarts has grown and kept pace with our technology needs. When it comes time to upgrade or add a station, the company has developed ways for us to do so without starting from scratch. We continue to use the original DOS-based system after many upgrades and equipment improvements.

The latest Linux-driven Smartcaster divides the considerable duties of the product into two separate processors. One processor, dedicated almost entirely to the recording and playback of audio, runs in the reliable Linux operating system. In addition to providing years of reliable service, the unit can be configured for updates and service across an Internet connection.

As the audio "engine" to the Smartcaster, the Linux system is capable of recording or playing in virtually any modern audio format, including MPEG Layer II, MPEG Layer III, apt-X (optional) and WAVE. These files can be at different sample and compression rates, and will play consecutively with programmable overlap. It is possible to mix an apt-X music library with MPEG files downloaded from the Internet without the conversion process. This same functionality allows the unit to coexist with CD Ripper programs and digital editors.

See SMARTCASTER, page 39 ►

uct by another inferior digital system.

I evaluated the current variety of digital systems for ease of use, maintainability and reliability. One company always ended up on the short list, OMT and its iMediaTouch system. With OMT's long history and experience in the field, a clean intuitive interface and use of standard hardware made iMediaTouch the most promising contender.

Committing to rollout

iMediaTouch is an integrated suite of software including on-air studio, audio content capture and management and scheduling tools. It provides radio station and non-traditional audio broadcasters with a complete broadcast system.

A single iMediaTouch On Air and Production package was purchased to evaluate before committing to a full-scale rollout. After setting it up, I invited the staff from each station to come in and take a test drive. A quick introduction with five minutes of instruction and they were making music on their own. The consensus was a resounding "No problem, I can do this" attitude.

Trials continued with various configurations and backup scenarios. It didn't take long to conclude that the iMediaTouch was dependable and had the features we desired.

The order for the software was initiated and our engineering department planned the hardware and installation details. The final arrangement consists of a primary and backup IBM eSeries RAID server hosting the database and audio files. Further security is achieved by sending the files off-site to another server. This was conveniently handled using the Ethernet WAN port of the spread-spectrum STL.

Each control room is equipped with a Dell Optiplex computer and two Antex LX-44 audio cards, providing four stereo playback channels. The computers are drive-mapped to the main server. If the server fails, redirecting the playback computers to the backup can be accomplished in seconds. In one exercise, an on-air computer was mapped directly to the off-site backup, which successfully played the audio files stored at the transmitter site.

Loading the large quantities of audio was the biggest challenge for the staff: this went faster than expected. The Production software allows ripping of one or many CD tracks at the same time. After trimming the beginning of the selection for a tight start and placing the fade and end markers, the song is done. After a week of steady effort, the music libraries for three stations plus commercials had been loaded. We were ready to go.

The transition went smooth with an iMediaTouch support representative present. Shifts are live and the talent can select their IDs, beds and other elements from the library or customized hot button sheets. Most of the worries subsided after a few days. I was now hearing "Why didn't we do this sooner?"

The iMedia suite also includes iMediaLogger, which replaces maintenance-intensive equipment used for logging, time-shift recording and skimming, such as DAT, VCRs, reel-to-reel and cassette tape recorders.

OMT also offers version 2.2 of iMediaTouch, including a "Non-Stop Broadcasting" feature that allows stations to avoid downtime during broadcasts.

For more information, including pricing, contact OMT in Canada at (204) 786-3994, in New York at (888) 665-0501 or visit www.omttechnologies.com.

USER REPORT

Smartcaster Veteran Eyes New Model

Radio Group Is Loyal to DOS-Based System But Eager to Test Drive Linux Version

by Bayard H. Walters
President
Cromwell Group Inc.

NASHVILLE Cromwell Radio Group has reliably used Smarts Broadcast Systems' Smartcaster automation and digital storage units for 14 years. Smartcasters operate on 17 of our 20 stations in four locations.

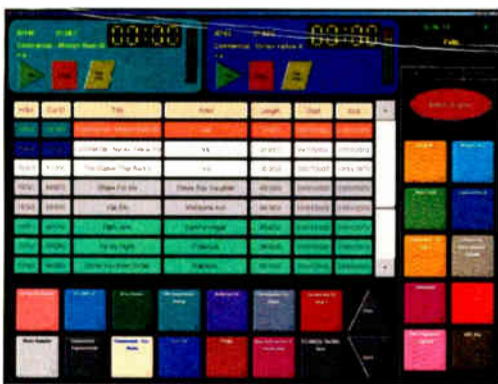
Seven stations in Owensboro, Ky., four FM/ three AM, operate from one studio. Our Decatur and Mattoon, Ill., studios each operate four FM stations, plus a production room. In Effingham, Ill., one FM and one AM station are operated. The Peoria, Ill., studios, which were sold several months ago, operated five stations plus a production room. I later bought back the Smartcaster systems and incorporated them in other stations in the group.

Our first units were installed in these markets in 1989 or '90. In most cases, we had only one station at each location. At that time, the idea of controlling programming with a computer was a new one, and several companies had systems in development. We invited several to meet with our managers in Illinois to demonstrate what was then advanced technology.

In the end, the managers voted to

purchase the Smarts systems. They seemed to work, and our managers could relate to the developer, John Schad, who had been a station owner in a small Iowa community.

At the time of the initial decision to use Smarts, no one could have foreseen the demands that might be put on these



systems. We were buying the system to control satellite programming (from ABC or Westwood) and to replace banks of cart machines or reel-to-reel tape recorders. Today, they hold music libraries for multiple formats, manage both "live" and "voice-tracked" air shifts and handle "remote broadcasts" and network interfaces — all simultaneously within multiple station environments.

For instance, in Owensboro we have three stations that are live-announce with separate playlists, and four that use satel-

USER REPORT

RCS Helps Arman FM Go National

Two Brothers Create the New Afghan Democracy's First Commercial Station, and Select RCS Scheduling

by Saad Mohseni
Director
Arman FM

KABUL, Afghanistan Although I was born in Afghanistan, as were my brothers Jahid and Zaid, our father was a diplomat, and we lived in Japan from 1987 until the communist invasion of the 1980s. Our father left the embassy and we migrated to Australia, where we grew up and were educated. But it was always our dream to return home.

My brothers and I created and now operate the first commercial radio station in Afghanistan; 98.1 Arman FM went to air on April 16, 2003 in the capital city of Kabul. It was a new sound for the city and country, neither of which had ever had a private or commercial radio station. There were exciting possibilities, and a chance to make a difference. And as with any change, there were some challenges.

The RCS integrated music scheduling line of Selector, Linker and Master Control enabled us to simplify a great deal of the technical aspects in getting Arman on the air.

My generation

Arman FM began at a period when people were still fearful of the old regime. We assessed what Kabul used to be like, and the direction in which we believed the new generation — over 50 percent of the population is under 21 — wanted to move. After 23 years of listening on the radio for the latest disaster hitting the nation, we believed people were ready for a change — a new format to reflect a new era. It was a time for hope, which is what "arman" means.

Our format is predominantly music, interspersed with DJ chats and specialized pro-



Arman FM's Shakeb Isaar plays the latest hits to 4.5 million potential listeners in Kabul, Afghanistan, using RCS Master Control. Arman FM began broadcasting to the Mazar population of 1.8 million as a step toward national expansion.

grams such as the revolutionary show, "Young People and Their Problems," where we read letters from real listeners and offer possible solutions.

We also have developed a great news team that provides a three- to five-minute newsbreak 20 times a day in both national languages, Dari and Pashto. For the first time, Afghans can listen to a mix of music customized to their tastes.

Our approach is to stay politically neutral but remain patriotic, and view the world from

a "glass-half-full" perspective. We encourage individuals to stay informed on what is going on around them, and promote national reconciliation. We have avoided delivering social messages through speeches, as we would rather be a friend and compatriot to our lis-

teners — many of whom are going through one of the biggest changes in their lives.

One of our own challenges was getting the right staff with the right attitude, and who understood what we wanted to achieve. Initially, we interviewed 300-400 people and selected only nine. Many of the people who had experience simply didn't have what we wanted for a fresh, vibrant new station "sound." Afghanistan had gone through 23 years of turmoil, and the media had remained pretty much the same throughout

— government-run, stuffy and dominated by elitist intellectuals.

Consequently, many of the DJs could not come to grips with speaking informally on the radio. We had to jump on the microphone ourselves to convey what we wanted.

While getting people on-air was challenging, getting them trained was even more so. Finding people with commercial radio experience was difficult. We tried outside training courses, but they offered no real value. So we trained our staff ourselves.

Most were hired based on attitude and personality. Many of these young guys and girls learned quickly and exceeded our expectations. We ended up hiring one of the trainees as a full-time consultant.

Our DJs and the population of greater Kabul have since become accustomed to our "new" style. Our national expansion began with the launch of our station in the city of Mazar on Aug. 9 of this year. Both stations are 1,000 watts and have amazing coverage. In spite of the hills surrounding Kabul, we cover about 43 miles north and south, more than any other station in the area.

We are about to debut in six more cities, and become a truly national station.

Originally, our target audience was adults 15-35. Our goal was to create a niche in radio-centric Afghanistan to compete with international stations like BBC, VOA, Radio Free Europe, Radio Azadi and the government station. However, we found incredible thirst for our desired format across all age groups.

Initially, we had around a 90 percent share of listening. We could not believe this and reran the surveys, and it was true. But with additional competitors and both the BBC and government stations changing their formats as a direct result of our station, our share is now 80 percent — still great by any measure. We would most like for the young, the future of the country, to listen.

One of the biggest issues we face is our music rotation. We have two national languages, as well as a range of others spoken in

See RCS, page 39 ▶

Products & Services SHOWCASE

Efficient
Effective
Affordable

RADIO WORLD'S
Products and Services Showcase
provides a perfect medium for
marketing your products and services.

For more information, contact
Simone Fewell at
703-998-7600, ext. 154
to request a media kit.

Radio World

➔ www.mouser.com

419,000+ Electronic Components
Over 1,000,000 Cross References

SEMICONDUCTORS | PASSIVES | INTERCONNECTS | POWER | ELECTROMECHANICAL | TEST, TOOLS & SUPPLIES

New Products,
New Suppliers,
New Technologies,
New Catalog Every 90 Days!

MOUSER **ti**
ELECTRONICS

(800) 346-6873 www.mouser.com

Mouser® and Mouser Electronics® are trademarks of Mouser Electronics, Inc.

Products & Services SHOWCASE

Introducing VoxPro PC ver 3.3

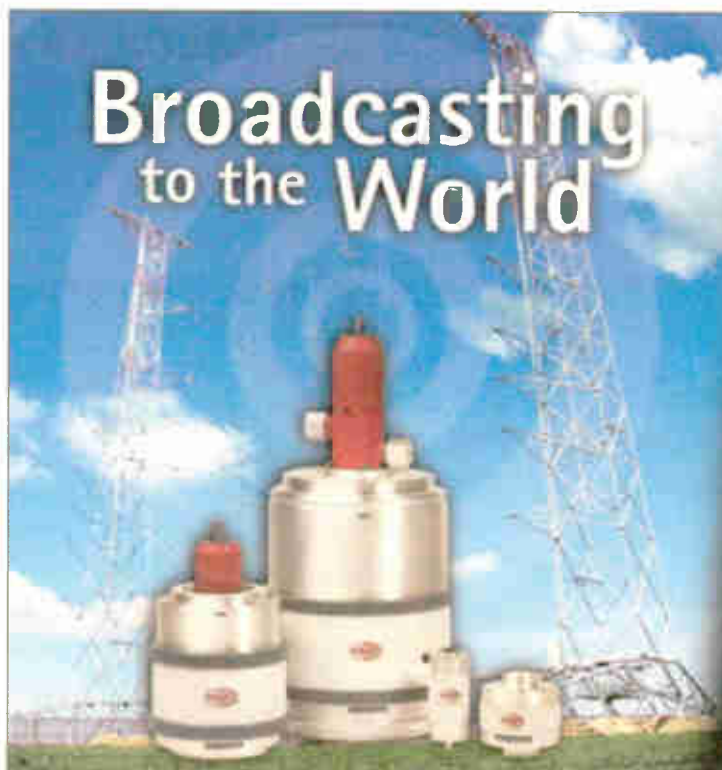
**Fast, Simple
Voice-Phone Editing.**
Networking: Instantly share files
room-to-room, user-to-user!



MP3

Import-Export
WAV/WMA/MP2
All Popular Formats

206.842.5202 x204
www.audionlabs.com



COMET NORTH AMERICA
421 Wards Corner Road
Cincinnati, Ohio 45140
Ph: (513) 831-5000
Fic: (513) 831-7889
www.cometna.com

- Full range of antenna systems for broadcasting
- Transmitters, Modulators, Receivers, and Water Cooling
- Standard equipment for all major AM & FM transmitters
- Professional TV test equipment is regularly test repaired
- Trained in North America with Kintronic Labs to provide engineering expertise to Broadcasters



Kintronic Labs, Inc.
144 Pleasant Street Road
Mull Co., TN 37019
Ph: (423) 876-3141
Fic: (423) 876-4214
www.kintronic.com



**SIX MILLION
THUNDERSTORMS HIT
PLANET EARTH EVERY YEAR!
IT TAKES ONLY ONE TO
PUT YOU OFF THE AIR!**



The STATI-CAT LIGHTNING PREVENTION SYSTEM provides a continuous, low-resistance discharge path for the static electric charge on tall structures. Dissipation points are 1/8" stainless steel rods.

This affordable and rugged system has proven itself in the field for over 20 years.

Cortana
Corporation, Inc.

Write or call for a free brochure and design
P.O. Box 2548, Farmington, N.M. 87499-2548
Toll Free: 888-325-5336 • Fax: 505-326-2337 • www.cortanacorporation.com

Audio Distribution Done Right *How many channels do You need?*



From a small 2 Channel Summing Box up to 60 Channels in 3RU - ATi has your solution.

MIC or Line Audio Digital Audio - AES/SPDIF Master Clock/Sync

**Celebrating 25 Years
of Innovation**

Hear for yourself why more Engineers and Sound Professionals are specifying Audio Technologies Inc.
For your nearest Dealer call +215-443-0330 or visit our new webpage at www.ATIaudio.com

AM Antenna Solutions



LBA Tunpole™
Folded Unipole Systems



RF Components



Vacuum Capacitors



Diplexer, Triplexer and
Phasor Systems

COMET
Sold Here!

**Reach further –
sound better!**

LBA Technology, Inc.

3400 Tupper Drive, Greenville, NC 27834
800-522-4464 / 252-757-0279 / Fax 252-752-9155 / Email Lbotech@Lbagroup.com / www.Lbagroup.com



LBA
Since 1963

**Looking for a MANUFACTURER,
a DISTRIBUTOR, a CONSULTANT?**

Look no further...

The 2004
Radio World
Directory Source Book
is available for purchase!

**ONLY
\$14.95**

INCLUDES SHIPPING/HANDLING

To order
copies contact:
Shirley Frew at
shirleyf@imguiba.com
or fax your request to:
703-671-7499



There will be no billing; all orders must be pre-paid.
We accept VISA, MasterCard, and American Express.

USER REPORT

Citadel Standardizes on Scott Studios

After Amassing a 'Hodgepodge' of Digital Systems, Citadel Broadcasting Taps SS32 to Run Stations

by **Jeff Schroeder**
Corporate Director of Digital Technology
Citadel Broadcasting Corp.

LAS VEGAS Citadel Communications has grown to 209 stations in 45 markets in 24 states. Most of the stations we purchased already had digital studio systems of one type or another. As Citadel grew, we acquired stations with every kind of automation there is.

Back in the late 1990s, our regional and national engineers, programmers and managers quickly realized that Citadel was outgrowing our hodgepodge of digital systems. We needed to operate smarter and more efficiently, and it became obvious we needed to standardize on one.

Our selection process began with the appointment of a committee of two veterans to supervise our study. One was a regional president and the other a regional engineer. They began by getting the input of our regional and local managers, department heads and staff. Everyone's requirements, priorities and opinions were tabulated.

Citadel spent 15 months of study, factory visits, budget reviews and hands-on use of every system in every Citadel situation. In mid-1999, we decided on **Scott Studios'** SS32 system.

That's when I came in and the real work began. In six months, I supervised the removal of other brands and the installation of 50+ Scott systems in 13 markets. Fortunately, many of the stations we acquired already were equipped with Scott systems.

Multi-market system

It took a couple of market installations to really get my hands around the project. I realized even the same systems need as much consistency as possible from market

to market for internal support purposes.

For example, we have standardized dri-



The SS32 system enables Citadel to share top air talent on fewer spots over more markets.

ve mapping. If you go from one Citadel market to another, you will see Scott Studios systems have the same map letters for all critical file locations. It's an incredible time saver.

An obvious benefit of digital technology and the Internet is the ability to share top production, news and air talent across markets. Many radio broadcasters have good people, but the best tend to get overexposed on too many spots and promos. Citadel now efficiently shares top air talent on fewer spots over more markets. Listeners enjoy fresher production and more variety.

All the digital systems allowed some sharing of announcers, but none met all of Citadel's needs. In particular, our program directors were unhappy with the standardized corporate music library required by

Airwaves is our traffic system for organizing and scheduling commercials.

Our Master Control hardware and software are in a separate room with a RAID server running Windows on five computers operating between production, the on-air studio and other studios, sharing audio as needed. We also run a parallel standard IT network with a few servers, but keep our broadcast network lines separate from our office network to minimize downtime risks. The staff at RCS India provides tech support.

RCS Master Control allows us to run automated between midnight and 5 a.m. With Afghanistan about to go to national elections, and with our expansion to other cities, we cannot afford to incite unrest through an incorrect news report or inappropriate comment from one of the DJs. We are currently increasing the number of pre-recorded shows and automation hours.

Jahid, Zaid and I praise RCS software and hardware for helping us to bring our new radio station into the digital age, and are proud of Arman FM and our now-professional radio staff. Visit www.arman.fm for audio samples of music content and other interesting info.

For more information, including pricing, contact RCS in New York at (914) 428-4600 or visit www.rcsworks.com.

most brands. PDs were not willing to renumber their music libraries to a corporate standard. Every PD had different ideas about versions, remixes, short or long versions, and even whether or not to speed up some songs slightly.

We found the solution we sought at Scott Studios. After our initial rollout, I contacted Frank McCoy, a principal developer and bleeding-edge user of another brand of hub-and-spoke digital system. Frank and I met with Dave Scott in Dallas, and Frank detailed the problems his former company suffered, which Citadel needed to overcome. The three of us brainstormed possibilities and came up with the perfect plan — except that what we wanted did not yet exist.

Smartcaster

► Continued from page 36
making production easier.

The control module handles the familiar user interface and most of the user-based functionality of the Smartcaster. It accepts program logs from Smarts or other traffic systems, music playlists from Digital Program Director or other music systems and

Scott Studios went to work developing the features we needed. We began testing and fine-tuning our concept. Citadel now feels it has the best multi-market sharing system available.

The company's remote voice tracker lets the distant announcer listen to heads or tails of the actual songs and spots where the show will air — yet our programming people didn't have to standardize, duplicate or unify their music libraries.

One beauty of Scott Studios' system is when a market PD adds or changes any song in his library or log, remote market Voice Track studios are updated quickly and automatically. Also, we use only inexpensive Internet FTP and VPN bandwidth. No costly Frame Relay connections are required.

Linking our stations together and easily sharing files between markets goes far beyond voice tracking, production and promos. We also have good success with our news sharing between Citadel markets.

One thing Citadel likes about its now 160+ Scott Studios systems is that we enjoy both a mature system and ongoing new development. If there is a feature, change or simply something new we'd like to do, we send the suggestion to Scott Studios and typically have new software within days.

We also like Scott's configuration options. When we're offered new features, each of our stations can still choose whether or not to activate them. We operate the way that's best for us.

Citadel has ordered more systems for two clusters: five stations in Boise, Idaho, three stations in Grand Rapids, Mich., and one station in Allentown, Pa. Additionally, we have ordered systems for stations in Springfield, Mass., and Salt Lake City.

For more information, including pricing, contact Scott Studios in Dallas at (888) GET-SCOTT (438-7268) or visit www.scottstudios.com.

ment that will allow stations to pick the interface that best suits their particular operation. Some can be used in conjunction with each other. Stations can have programs dedicated to quality live broadcasting and those dependent on automation and walk-away capability.

Over the next few years, we will begin upgrading our equipment. One market will upgrade completely to the newest Linux system and we'll spread out the best of the "older" equipment

The latest Linux-driven Smartcaster divides the considerable duties of the product into two separate processors.

integrates it all into a stream of audio to air. It runs automation or intuitive live programs, and handles simultaneous background tasks, such as unattended recording of network events and audio switching.

Because the unit essentially is a software program driving the Linux audio module, it can be reconfigured at any time in the event a drastic programming change is required. For example, the Smartcaster excels in mixed automation-live environments, but can be reconfigured into an Ultimate Digital Studio UDS II system if your needs move to exclusive live programming.

New user interfaces are in develop-

in other markets as we go enter into a replacement program for each market. As a result of our satisfaction, we are committed to continuing with Smarts, unless some huge technology issue arises.

But we are confident that if that were to happen, the company would address it and provide us with the necessary tools to keep pace. Chris Bullock, 14-year operations manager in Decatur, confirms: "From my perspective, the support team keeps me sold on its product."

For more information, including pricing, contact Smarts Broadcast Systems in Iowa at (712) 852-4047 or visit www.smartsbroadcast.com.

Products & Services SHOWCASE

Digital and Analog Switching /Distribution Transmitter Audio Solutions ...



The AES-302 Digital Audio Switcher/DA/D to A



The CDS-302 Automatic Composite Audio Switcher/DA



The CDS-300 Composite Audio Switcher/DA

We are proud to introduce the next generation of composite base band and digital audio switchers from bdi. These new designs provide interface, switching and distribution solutions for your transmitter site. Use these quality products for confidence monitoring and switching functions made necessary by today's competitive environment. Eliminate embarrassing off the air outages caused by path losses. Visit our web site or call us for complete information about these versatile transmitter audio solutions which will provide complete confidence in your signal integrity and reliability.

Broadcast Devices, Inc.

Tel. (914) 737-5032 Fax. (914) 736-6916
www.Broadcast-Devices.com



Maximize your FM Station!

Success Starts with **rfInvestigator V2.5** The software that works as hard as you do.

rfInvestigator V2.5 is our *most flexible* program yet.

Display Audemat-Aztec Navigator 100 & Navigator 007 field surveys.
Export propagation jobs for display in other mapping programs.
Import contour information from other programs for your use.
One set of TOPO! Maps is included with the program.

Display and Printing Improvements
Set colors and line weights for easier to read maps
Invert colors easily for faxing
Create your own map labels
Variable job scan range
Display ESRI Shape Files

PL-SCANNER
With this advanced module you can create path-loss files for propagation analysis in **rfInvestigator**.

"DA Design Tool" Improvements
Completely redesigned to work faster
Set your own antenna design limits
New booster designer

DB-BUILDER is a "behind-the-scenes" utility program that downloads data from the FCC website and creates databases for our various products. **Never buy** another database!



rfSoftware is an Audemat-Aztec dealer.

Visit www.rfsoftware.com today!

Call 352-336-7223 for information.

On-site Training Available

rfSoftware, Inc.
innovative engineering tools

MAGER SYSTEMS, Inc.
The Best in Sound Furniture

Custom Studio Furniture

TEL: 623-780-0045
FAX: 623-780-9860
mager@magersystems.com
www.magersystems.com
Visit our website for more information

Since 1979 Mager Systems, Inc. has been custom designing and fabricating *award winning* furniture for the broadcast industry nationwide. We are still the innovators and leaders in *solid surface tops* and applications which comes with a *10-year warranty*. Our complete *one-stop-shop* includes installation, *turnkey prewiring*, switches and components, conference rooms, reception desks, and office furniture. Our blending of art form with cutting edge techniques, and a clear understanding of each client's application allows us to produce your *showplace* tailored to your budget.

WBAA
Purdue University

MSI introduces our new award winning "Sound Choice" furniture. Our modular in stock furniture boasts unsurpassed quality for the economical budget with a 10-year limited warranty. See details on our website.

Touch Sensitive Switches & Keyboards

Affordable, Reliable & Flexible???

ABSOLUTELY!!

Check out the **PACEMAKER IIIK**

PM 218

(PC Board revision taking place: new devices, greater slew rate, better signal to noise ratio)

And don't forget the **Mini Mix 8A**

AUTOGRAM 800-327-6901
www.autogramcorp.com

Precision filters and combiners

Yep. We've got those, too.

BEXT

www.bext.com / toll free 888-239-8462
RF innovations for the broadcast world since 1985

May we present...

YOUR AD

RADIO WORLD'S
Products and Services Showcase provides a perfect medium for marketing your products and services.

For more information, call Simone at 703-998-7600, ext. 154 to request a media kit.

USER REPORT

Stations Depend on DAD for Storage

Millennium Radio Group Upgrades Its Workstations With ENCO Systems' 32-Bit Version of DADPro

by Tom McNally
Chief Engineer
Millennium Radio Group
WFGP(FM), WPUR(FM),
WIXM(FM), WKXW(AM),
WKOE(AM)

ATLANTIC CITY, N.J. Having started in radio as a DJ, and having been on the air for more than 30 years, I have a certain outlook on how a radio studio should work. Things should be easy to use and reliable, have redundancy for those times when something goes wrong and do cool stuff.

I was introduced to ENCO Systems' DADPro in 1996, when WFGP(AM) — now WKXW(AM) — WFGP(FM) and WKOE(AM) were owned by H&D Broadcasting. The AM WFGP had one standalone DAD while the FM was all cart and WKOE was running another brand of automation in standalone mode. Back then, everything was dubbed into the digital system from carts — it quickly became obvious that it was time to do things right.

Spring Broadcasting took over in 1997, and purchased a complete DADPro DOS-based system, with on-air and production workstations and a Novell server, which was deployed in the spring of that year, adding the original AM system into a mix of a server and new workstations for pro-

DADPro32 allows each workstation to have four on-screen playback machines; four recorders; one huge array machine

traffic for on-air reconciliation.

One of my favorite features of DADPro32 is the "DAD Command Language," which allows the program to talk to anything you can think about hooking up to it.



McNally likes the system's DAD Command Language feature.

with 480 buttons; two mini array machines with a total of 240 buttons each; four quad machines that look like ITC triple-deckers with four slots; a script machine that can pop text up on the screen

We have start buttons on the audio consoles connected to start and stop DAD, and we talk to many Broadcast Tools switcher products to swap inputs under program control from various sources. With DCL, "command cuts" allow DAD to do things quickly with one click, or under automation control, like move to a point in the log, change satellite channels, join a simulcast or turn the right pots on and off.

Some of the cool things we do here include voicetracking the evening show on one of our stations using the facilities of our Millennium Radio New Jersey News Network, enabling a jock about 60 miles

away at one of our sister stations to jump right on and use Tracker live, via WinVNC, or in real time.

She actually hears the outros and intros in her headphones, and can send her mike into DAD with no assistance on our end.

I also designed a custom voicemail application that takes snow-closing announcements automatically from school officials, and makes playlists that DAD can play, with one of our announcers reading them.

DAD does this so smoothly, it sounds live. WPUR Cat Country 107.3 takes the show on the road every year for St. Jude Children's Research Hospital, and we take a DADPro32 box and a Telos Zephyr and do the entire show from a local mall. The combination of DCL cuts and the Zephyr allows us to turn two news feeds on and off from the remote, with no board operator. With a combination of PCAnywhere and WinVNC, I can jump on the system from home in seconds to make a last-minute change, or even do a software update late at night.

We also let DADPro control three 16 x 16 Kramer routing switchers to select inputs to the consoles and output IFB talk-back audio to various ISDN and POTS devices, as well as rotate five stations on our music on-hold system. With a combination of DAD, the routers and WinVNC, a studio can access the DAD system in another studio during events where we want to do emergency weather updates, etc.

ENCO Systems has many software updates each year, which contain fixes and new features — most of them suggestions of users. I'd say the latest version probably has 10 things I wished for. On the few occasions that I've discovered an odd bug, I've gotten quick same-day fixes. It's a great feeling to deal with a company that takes user comments seriously. The open architecture of the database files, coupled with the Windows Server, allows any kind of custom report or third-party interface to grab files.

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

The workstations have full local storage of music and commercials for five stations, so in the event of a server problem, any workstation can continue to function with 100 percent of the program material.

duction, and WFGP and WKOE. We later added another station when WPUR(FM) came on the air in 1998. DADPro served us well for about five years, with few problems that weren't caused by "cockpit error" or nasty power surges.

New millennium

With the purchase of the stations by Millennium Radio Group in 2001, and the acquisition of WIXM(FM), we had capital budget to upgrade to DADPro32, ENCO's 32-bit system, with all of the features a Windows-based system offers. We now have nine workstations and a Windows 2000 server with DADPro32 and DropBox, a utility that enables easy importation of files produced on other equipment, e-mailed or picked up on a Web site.

ENCO offers hardware and software packages, but we opted to buy the server from the company and I put together the workstations, using Digigram audio cards and GPI boards purchased from ENCO. The workstations have full local storage of music and commercials for five stations, so in the event of a server problem, any workstation can continue to function with 100 percent of the program material. This feature also allows us to take a machine on the road for a remote, and let the jock do his own show without any board operators.

for liners and live tags, making full use of networking and HTML; an automated/live machine called Master Log; and Air Play, which is intended for live fast-paced stations.

Also featured are "4 Play," a quad cart machine interfaced with a playlist, and the Library, where any cut can be accessed for auditioning and editing. DADPro32 offers several ways to modify playlists for creation or last minute changes, and includes ENCO's Tracker to do voicetracking. Each screen also has a row of six big buttons across the bottom called Priority Plays, which can be programmed to play audio or perform a function. The system also has the ability to perform timed recordings, including switching inputs and satellite channels.

For stations on limited budgets, the software can be purchased "a la carte" with EZ-Modules.

Our systems get their daily program schedules from RCS Selector with the Linker option, which grabs commercials from our Wicks DeltaFlex traffic system and integrates them with the music log. I wrote a custom interface that makes a DAD-compatible playlist and sends it over, and the on-air systems make a clean swap at midnight. ENCO also offers optional import programs to interface virtually any traffic system with DAD. Conversely, DAD keeps logs and can interface back to

TECH UPDATE

Automatronix Offers Music, Event Scheduling

The Automatronix scheduling system from JT Communications offers manual, live-assist, play-once, repeat and random modes of operation, in addition to playlist or event list generation. The standalone playlist generator program allows MP3 files to be edited on the fly, and a standalone timed recorder program records live satellite feeds at pre-programmed times. All modes offer bad file detection.

The company says the system's file tagging method does not require a separate database, allowing the operator to maintain file playback with conventional players. Three independent players, which are joined during automatic operation, enable overlap capability. A CD ripper/encoder is included.

Six programmable independent hotkeys are featured, with the ability to operate multiple hotkeys simultaneously. Hotkeys can be started, stopped and paused, and offer a "fast stop and rewind" function in case of accidental operator start.

The Automatronix voiceover file feature allows files to match voiceover time, which the company says results in precise "talk-up" to the intro of each song. Rapid, short files as little as 0.2 seconds in length will play, and invalid overlap times are auto-corrected.

Programmable controls include an audio dim function for hotkeys and voiceovers; "bumpometers," which allow master adjustment of overlap times and voiceovers, so operators can adjust tightness and looseness between segues and voiceovers; four directory or file quick-access buttons for song or event entry; adjustable auto-fader between segues; and a sound card input feature for external audio input events, long- and short-term.

The Programmable Inactivity detector handles dead air, and selectable RS-232 interfacing enables remote control.

For more information, including pricing, contact JT Communications in Florida at (352) 236-0744 or visit www.jtcomms.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



Full product line for sound control & noise elimination.

www.acousticsfirst.com

ANTENNAS/TOWERS /CABLES

Want to Sell

AM Ground Systems
Reliable, On-time Installation
Quality Workmanship
Ground System Evaluation
and Repair
www.amgroundsystems.com
1-877-766-2999

Shively 4-bay wave spaced 6810R with radomes (2001) three sets, tuned to 96.1, 96.5 and 94.7, \$4000/set. Also, 3-bay full wave spaced 6813R with radomes (1999) two sets, tuned to 101.5 and 102.9, \$3000/set. Both in storage in upstate NY, replaced in recent upgrades. Contact Tim Martz @ 415-359-1030 or tim@947hits.com



FCC Tower Signs call 610-458-8418
Antenna ID Products

Shively Labs 6810-6R-DA antenna. This antenna is tuned to 92.5FM with a gain of 6.09 and db of 7.85. This was originally installed in 1986 and removed from service back in November. System also included raydoms for ice protection and is 20 dbk max. Pictures are available so e-mail Mraley@bbnradio.org for the full scoop. Asking \$12,000. buyer responsible for pick-up and delivery. This system is located in Alert, NC.

Want to Buy

WPAY/WPFB, Inc. is in need of a used 6-8 bay FM broadcast antenna, circular polarity. Must be in upper band with 3-1/8 input. Also need 3-1/8 helix, 300'. Mark Evar, WPAY, 1009 Gallia St., Portsmouth OH 45662. 513-422-3625.

AUDIO PRODUCTION

Want to Sell

Shure M67 & M675 set. Together they provide 8-channel mono mixer with cue (on 4 channels) and monitor outputs. Switchable for 3 or 4 mics, 2 to 5 line, up to 2 phono inputs, 110v or battery power, \$200 includes S&H. Curt Bramblett, Nick Curtiss Studio, 6 Columbus Ct, Palm Coast FL 32137-8332/ 386-986-0229.

Moseley 6000D & E, 4 each, digital encoders/decoders. Some work, some need repair. \$500. Aaron Savage, Pacific Radio Group, 913 Kanoelehoa Ave, Hilo HI 96720. 808-961-0651 ext 130.

CART MACHINES

Want to Sell

ITC cart machines, \$25 per playback +shpg. Patrick Lopeman, WMOM, 206 E Ludington Ave, Ludington MI 49431. 231-845-9666.

ITC stereo cart machine, record/playback, \$350 +shpg. Donald De Rosa, WAMF, 315-374-1300 or email: WAMF1300@alltel.net.

Spotmaster cart machine, record/playback, \$350 +shpg. Donald De Rosa, WAMF, 315-374-1300 or email: WAMF1300@alltel.net.

Tapecaster cart machine, record/playback, \$250 +shpg. Donald De Rosa, WAMF, 315-374-1300 or email: WAMF1300@alltel.net.

CD PLAYERS

Want to Sell

Denon DN M105R minidisk player. This is a commercial model we used for remote ID and PSA activations. Have gone to cd players so we are going to let these go for \$250 each "as is" +s/h. Call Mike Raley at 704-523-5555 or email Mraley@bbnradio.org for pictures.

Sony JE-470, 440 and 630 minidisc players. Very good condition. I have several of them and will let them go for \$75 each +s/h. Call Mike Raley at 704-523-5555 or email Mraley@bbnradio.org & I'll send you a picture of it.

COMPLETE FACILITIES

NEW OR USED COMPLETE PACKAGES
STUDIO/STL/TRANSMITTER/ANTENNA OR ANY COMBINATION OF ABOVE.
-LEASE OPTIONS-
-EMERGENCY RENTALS-
-REMOTE BROADCAST RENTALS-
SCMS, Inc. (800) 438-6040
"You Know We Know Radio"

CONSOLES

Want to Sell

Mackie 1604VLZ Pro Mixer 16x4x2, new, never used, in pristine condition, \$800 +shpg. Donald Lockett, 202-365-2368 or email: CDDJDoc@netscape.net.

Audio Arts A-50 console. Used in light recording such as weather & PSA's. Has 8 faders, will let go for "as is" \$900 +shpg & handling. Call Mike Raley at 704-523-5555 or email Mraley@bbnradio.org for a picture.

Audio Arts R-60 console. Very nice working board. Has eight faders but space for more. Will let go "as is" for \$2800 plus s/h. To see a picture email: mraley@bbnradio.org.

LIMITERS/AUDIO PROCESSING

Want to Sell

CRL PMC 300A AM audio processing peak modulation controller; spectral energy processor SEP 400A, \$1000/BO. Jerry Evans, KPTL, 1960 Idaho St, Carson City NV 89701. 775-884-8000.

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 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

ROTOR BLOWERS AND FLATE BLOCKERS new & rebuilt for Elcom, Harris, CCA, CSI, McMartin, Goodrich Ent. 11435 Manderson St. Omaha, NE 68164 402 493 1886 FAX 402 493 6821

Protek 20 MHZ Spec. analyzer (A-3502). Make a decent offer. Call Michael Raley (704) 523-5555 or e-mail Mraley@rrb.org.

Best Power Technology Model MCR2000 (2), 120V, single-phase, 2000W power handling capacity, AC power line conditions, brand new, still in factory sealed crates, \$650 each/BO. Ray Knudson, 1229 Park Ave, La Crosse, WI 54601-5641. 608-789-1894.

MONITORS

Want to Sell

RCA AMN-1 frequency & modulation monitor with instruction book. \$350 +shpg. Donald De Rosa, WAMF, 315-374-1300 or email: WAMF1300@alltel.net.

RECORDERS

Want to Sell

Revox stereo r-r tape recorders (2), \$1000 or \$475 each +shpg. Donald De Rosa, WAMF, 315-374-1300 or email: WAMF1300@alltel.net.

Sony DAT PCM 7030, just factory serviced, excellent condition, u-pay shipping or pick up, BO. Richard Miller, Latitude 21 Bdctg, 590 Ulumalu Rd, Haiku, Maui, HI 96708. 808-572-5534.

Tascam 122B cassette recorder, deluxe model, 2 speeds, excellent condition, u-pay shipping or pick up, make offer above \$375. Richard Miller, Latitude 21 Bdctg, 590 Ulumalu Rd, Haiku, Maui, HI 96708. 808-572-5534.

Optimus SCT 7500 high speed dubbing stereo cassette. Will let go for "as is" for \$75 +s/h. To see a picture email: mraley@bbnradio.org.

Pioneer stereo double cassette deck. Working condition. Will let go for "as is" for \$75 +s/h. To see a picture email mraley@bbnradio.org.

Sony stereo cassette deck TC-WE475. Working condition. Will let go "as is" for \$75 +s/h. To see a picture email: mraley@bbnradio.org.

REMOTE & MICROWAVE

WE RENT FOR LESS
Blueboxes FM Exciters
Zephyrs FM Power Amps
POTS Codecs STL's
RF/Audio Gear Test Equipment
If we don't have it, we will get it!
SCMS, INC. (800) 438-6040
"You Know We Know Radio"

SATELLITE EQUIPMENT

Want to Sell

MPEG-2 Satellite Receivers, LNBS, C & Ku Band Equipment.
www.daveswebshop.com,
479-997-2230.

Wegner DN 86 Digital Audio Receiver 3944.1 MHZ - \$75.00 "as is" plus shipping and handling - Call Michael Raley @ (704) 523-5555 for more information or e-mail Mraley@rrb.org for a picture.

STATIONS

Want to Sell

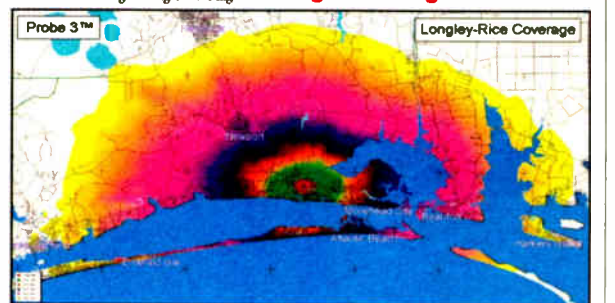
AM 1000 WATT: Full time automated station in North Alabama, has been on the air since 1949. 10 year old building, 5 year old equipment. Owner is retiring. Some financing with approved credit. Serious inquiries only! Call 256-412-7958 (cell) or between 5PM-8PM CST 256-332-3214. No calls after 8PM please.

www.rwonline.com

MUST SELL due to owners health. Just reduced by \$15,000. Station located in N.E. Tennessee. Call Jennings at 423-968-5221 or 276-466-2893.

San Antonio Market: KLMO FM C1 for sale or lease with option. Please inquire by calling Lots Potential, 361-765-1758.

VSoft COMMUNICATIONS The Leader in Broadcast Engineering Software



Professional Software packages for FCC applications and predicting coverage.

- Create stunning "real-world" coverage maps and interference studies using Longley-Rice, PTP, Okamura/Hata and FCC with Probe 3™.
- Search for FM channels under spacings and contour to contour protection using FMCont™.
- Prepare AM skywave and groundwave allocations studies and map FCC contours with AM-Pro™.
- Plot STL paths over 3D terrain with Terrain-3D™.

Quality custom mapping and FCC engineering consulting available.

www.v-soft.com (800)743-3684

Want to Buy

Radio Stations, LPTV or CPs. Areas: RI, CT, MA or FL, cash waiting, would consider partnership. Call after 6PM EST. Michael Cardillo, 151 Morgan St., Cranston RI 02920. 401-942-8341 or email: Michael_Cardillo@Brown.edu.

TAPES/CARTS/ REELS/CD'S

Want to Sell

172 carts in Lazy Suzan, \$300 +shpg. Donald De Rosa, WAMF, 315-374-1300 or email: WAMF1300@alltel.net.

2000 tape carts, full light A/C library, 25cents each +shpg. Patrick Lopeman, WMOM, 206 E Ludington Ave, Ludington MI 49431. 231-845-9666.

STUDIO EQUIPMENT

Want to Sell

ATI Audio Distribution Amplifier 2016-1. We have several of these as a result of studio renovations. They cost over \$1,100.00 new but will let these go for \$100.00 each plus S&H. Contact Michael Raley at (704) 523-5555 for more information or e-mail Mraley@rrb.org for a picture.

TRANSMITTERS

Want to Sell

BEXT
From the tall to the small
WWW.BEXT.COM
888 239 8462
Transmitters & Antennas



Audio Cord Cart machines. We have about Several "E" series playbacks at \$20.00 each, 10 "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 and two "DL" series p/r mono. No connectors are available. Will sell "as is". Shipping and handling charges apply. Call Michael Raley @ (704) 523-5555 or e-mail Mraley@rrb.org for some pictures.

Enberg BA - 6 Annunciator. Have several 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 \$100.00 each "as is" plus s/h. Call Mike R at (704) 523-5555 or e-mail Mraley@rrb.org for more information.

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.

OFF THE AIR?
Emergency Back-up Rentals
FM Exciters - STLs -
FM Pwr Amps - Antennas -
Studio & Test Equipment
SCMS Inc (800) 438-6040
"You Know We Know Radio"

Harris Gates One, 1 KW AM transmitter on 1090 Khz. Two year old, in excellent condition, \$8500. Pick up only near Raleigh NC. Brian Mishkin, WTSB, 3305 Durham Dr, Ste 111, Raleigh NC 27603. 919-329-9810.

TRANSMITTERS (WTS) Cont.

RCA BTA1S 1000/500 watt broadcast transmitter with new matched pair of 400-C power tubes in transmitter with manuals. \$3000 +shpg. Donald De Rosa, WAMF, 315-374-1300 or email: WAMF1300@alltel.net.

CCA 5KW FM transmitters (mid 70s), one on 96.7 another on 101.5, both working well until replaced in recent upgrades, \$4500 each or \$8000 for both, you pick up. Contact Tim Martz @ 415-359-1030 or tim@947hits.com.

CSI T-25-FA FM Transmitter. Recently removed from service in Savannah, GA after 18 yrs of solid operation. Includes Relay interface for remote control and Low Pass filter but not the exciter. This is a three-phase box tuned to 89.5 FM. TPO is 25k with an efficiency of .73. This also includes a CSI T-3 which drives the final. We have the manuals for both. Asking \$9,000 plus buyer arranges shipping. Give me a call at 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 \$17,000.00. Call Mike Raley at (704) 523-5555 or E-mail Mraley@rrb.org for pictures.

BESCO World Leader in AM - FM Transmitters
"Now in our 34th year"

AM & FM Pre-Owned Units In Stock

All Powers • Manufactures • Instruction Books • Spares & All Complete

Visit our Website:
www.besco-int.com

Or Call Rob Malany, National/Int'l Sales at **321-960-4001**

1980 Harris FM 25KW transmitter complete with exciter and fully operational. Call Diane at 712-325-3235 or dosbahr@iwcc.edu for additional information and official bid packet.

Crown Broadcast FM500R, 500W FM translator with spare parts kit. Transmit & receive channel frequency agile. 18 months old, had complete check-up at the factory in 9/04, \$6000/BO. Ray Knudson, 1229 Park Ave, La Crosse WI 54601-5641. 608-789-1894.

ADVERTISE YOUR EMPLOYMENT AD ON OUR WEB SITE FOR ONLY \$2 PER WORD!

ADS GET POSTED THE NEXT BUSINESS DAY AND WILL RUN FOR A FULL TWO WEEKS!

COMBINE THIS WITH AN AD IN OUR RADIO WORLD NEWSPAPER EMPLOYMENT SECTION AND REALLY COVER THE BROADCAST INDUSTRY AND THEN SOME!

RW Online
www.rwonline.com

Call Simone Fewell for all the details at **703-998-7600 ext. 154** between 9-5 EST

TRANSCOM CORP.

Serving the Broadcast Industry Since 1978

Fine Used AM & FM Transmitters and Also New Equipment

USED FM TRANSMITTERS		NEW TV TRANSMITTERS ANALOG AND DIGITAL	
1KW	1998 Harris Quest Solid State	VHF AND UHF (10 W to 10KW)	TV Antennas TV STL
1.5KW	1967 BE FM1 5A		
3.5KW	1968 BE FM3 5A		
3.5KW	1992 Hams HT3.5		
5 KW	1981 Hams FM 5K		
20KW	1978 Cothns 831G2		
25KW	1980 CSI T-25-FA (Amplifier Only)		
25KW	1982 Hams FM25K		
30KW	1986 BE FM30A		
50KW	1982 Hams Combiner w/auto exciter-transmitter switcher		
USED AM TRANSMITTERS		USED TV TRANSMITTERS	
1KW	1998 Continental 314D Solid State	1KW UHF	1992 Acrodyne
1KW	1983 Hams MW1A Solid State	10KW UHF	1999 telco T614C (Like new-60 hrs. of use)
10KW	1986 Hams MW10B	120KW UHF	1985 Hams TV120
50KW	1985 Continental 317C2		
50KW	1986 Nautel AMPFET 50 Solid State		
USED EXCITERS		USED MISC. EQUIPMENT	
Hams DIGIT, 2002	Continental 802B	Audi Amplifiers:	
BE FX 30	"New" 20 watt-synthesized	BGW 85	
		Crown D-75	
		Audiometrics Stereo Distribution Amplifier	
		"New" Denon 720R Cassette Player	
		Moseley remote controls	
		Potomac Phase Monitor AM19 w/sampler	
		Potomac Phase Monitor 1901 Digital 2Twr	
		Sola Voltage Regulator 60hz 1KVA s-phase	

2655 Philmont Ave #200, Huntingdon Valley, PA 19006

800-441-8454 • 215-938-7304 • FAX No. 215-938-7361

VISIT OUR NEW INTERNET SITE: www.fmamtv.com
SEND YOUR E-MAIL REQUESTS TO: transcom@fmamtv.com

www.rwonline.com

Harris Gates I, 1 KW transmitter on 1560. Bought in 1978, great condition, sell as is, buyer responsible for s/h, best offer over \$5500. G Hayes, WKKY, 95 West Main St, Geneva OH 44041. 440-466-9559.

Consultants

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.

Email: info@owleng.com **651-784-7445** Fax (651) 784-7541

5844 Hamline Ave. N., Shoreview, MN 55126 *Member AFCEE

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 AFCEE

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

Communications Technologies, Inc.

Radio Frequency / Broadcast Engineering Consultants

AM FM TV LPTV Cellular/PCS Site Analysis

P.O. Box 1130 / Marlton, NJ 08053
Tel: 856/985-0077
Fax: 856/985-8124
web: commtechrf.com

Clarence M. Beverage
Laura M. Mizrahi

GRAHAM BROCK, INC.

BROADCAST TECHNICAL CONSULTANTS

Full Service From Allocation to Operation AM/FM/TV/AUX Services:
Field Work, Antenna and Facilities Design

Over 45 years engineering and consulting experience

912-638-8028
202-393-5133
www.grahambrock.com

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 web at www.radiosoft.com
101 Demarest Sq., #E, Demorest GA - 708-778-6811

System One Communications

Broadcast Constructors & Consultants
Houston, Texas

888-625-5649

- AM-FM Site Construction Specialists
- Complete Tower Service
- Antenna & Transmission Line Diagnostics

Structural Analysis

ERI Electronics Research, Inc.

7777 Gardner Road
Chandler, IN 47610
(812) 925-6000
www.ERInc.com

REGISTERED PROFESSIONAL ENGINEERS
STRUCTURAL ANALYSIS
ERI Incorporated 1943
TOWER REINFORCING

R. MORGAN BURROW, P.E. & ASSOCIATES, P.C.

ALLOCATION STUDIES

AM/FM TV LPTV/DTV
Site location, interference, propagation, etc.

FIELD WORK A SPECIALTY

- AM/FM TV LPTV/DTV site location, interference, propagation, etc.
- Site location, interference, propagation, etc.
- Site location, interference, propagation, etc.

ELECTROACOUSTICS
OSMA measurements

304-258-7921 Fax 304-258-7927

Doug Vernier Telecommunication Consultants

Broadcast Engineering Consulting
AM/FM/TV/LPTV/DTV
Custom mapping services
Frequency searches
Propagation prediction
FCC application preparation

VSoft Software for your PC

(800) 743-3684
www.v-soft.com

dataworld

Market Analysis
Engineering Software
Ethnic/Demographic Data
Custom Full-color Mapping
Sales Marketing Packages

www.dataworld.com info@dataworld.com
800-368-5754 fax: 301-656-5341

Herb Kravitz
Broadcast Engineering Consultants

AM-FM
Professional Technical Support
Comprehensive Field Service

phone 609-347-4821
fax 609-347-6397
hkradio@msn.com

EM Mullaney Engineering, Inc.

Serving Broadcasters Since 1948

9049 Shady Grove Court
Gaithersburg, MD 20877
(301) 921-0115
Fax (301) 590-9757
mullaney@mulleng.com

SPACE IS AVAILABLE!

Are You a Distributor?

ADVERTISE HERE!
Space is available.
Call 703-998-7600, ext. 154.



NEW

ECONCO NEW TUBES

New tubes are now manufactured by **ECONCO** at our award winning facility in Woodland California! Of course, we continue our 34 year tradition of high quality power tube rebuilding.

TEL: 800-532-6626
 NTL: +1-530-662-7553
 FAX: +1-530-666-7760
 www.econco.com
 SE HABLA ESPAÑOL



TUBES & COMPONENTS

Want to Sell

FOR THE BEST PRICE
 & 24 Hr service on transmitting tubes & sockets parts, new & rebuilt call Goodrich Ent. at 402-493-1886 day or night, www.goodrichenterprises.com.

RF POWER TRANSISTORS

Philips
 Motorola
 ST-MICRO

M/A-com
 GHz.
 Acrian

Please contact us for pricing and delivery at:
 Phone: 954-344-7379 Fax: 954-344-7310
 Dave Gilden: dgilden@rfpowerx.com

EMPLOYMENT

HELP WANTED

MIDWEST CONTRACT ENGINEERING/CONSULTING FIRM seeks experienced broadcast field technician. Reliability, self-starter, references required. Nice living area. radiicons59@aol.com.

New to the radio business, have lots of spunk and enthusiasm. Experienced in on-air announcing, production, copywriting and sales. Will travel. Deana, 405-706-4884.

Talented, hard working team player seeks a FT gig. Resume, aircheck, letter of recommendation available upon request. Anthony, 765-349-1291.

Creative, energetic female talent, ready to join winning team! On-air, copywriting, news and production, Cool-Edit experience. Will travel. Elexandria Moore. 972-603-8211 or email: friscopops21@aol.com.

If your station's not in the Hispanic market, your losing money. Bilingual radio broadcaster for hire. Email Sal at theorb@ticnet.com or call 817-829-1904.

Production Pro, creative writer, excellent communicator. All formats, professional, extroverted, confident upbeat delivery, great imaging voice, will relocate. Photo's, Aircheck and CA's at www.jasminebordeaux.com or email: jasminecharnc@aol.com or call 214-492-0742.

Broadcast Equipment Exchange

For more information, call Simone at 703-998-7600, ext. 154.
Radio World

POSITIONS WANTED

ABS graduate needs on-air News/DJ position in N California/Nevada. Excellent voice, production and old style work integrity. A great investment to your station! Bob, 409-733-2380.

Fresh approach, innovative ideas by this graduate of American Broadcasting catapult your station to the top. For production and on-air contact Kiev Adair, kiever@bellsouth.net or 601-924-9114.

Spirited personality, and optimistic outlook. Highly motivated, multi-tasker. Ready to tackle on-air, newscasting, traffic, and voice productions. Proficient in CE2K. Call Tamia, 972-352-8454 or tammyhugger@abglobal.net.

RF PARTS CO.
 From Milliwatts to Kilowatts™

EIMAC • TAYLOR • ECONCO • SVETLANA
 Motorola • Toshiba • SGS • Thomson & Mitsubishi Semiconductors

Se Habla Español **800-737-2787** We Export

760-744-0700 Email: rfp@rfparts.com Web: www.rfparts.com

To advertise,
 call 703-998-7600,
 ext. 154
 or e-mail:
 sfewell@maspub.com.

D And C Electronics
 An International Distributor of RF Components
Tubes
 NEW & REBUILT

TRANSMITTERS, STUDIO EQUIPMENT, STLS, ANTENNAS,
 RADIO DATA SYSTEM (FOR CAR RADIO DISPLAY)
 EXCITERS-TRANSMITTERS, TRANSLATORS, MIXERS-CONSOLES, RADIO LINK
 RPU, MOSFETS, VACUUM CAPACITORS, SOCKETS

Eimac **Pro-Tek®**
 SVETLANA **OMB** **EEV**
 USA DISTRIBUTOR

BEST PRICES To Order: FROM OUR STOCK
 1-800-881-2374
 Outside U.S. (352) 688-2374
 Se Habla Español

3089 Deltona Blvd. 352-688-2374
 Spring Hill, FL 34609 BEST SERVICE Fax 352-683-9595
 Website: www.dandcelectronics.com

POWER Eimac YOU CAN TRUST
 ISO 9001 Certified

The Choice of Successful Broadcasters Since 1934

NEW POWER TUBES
 Triodes
 Tetrodes
 Pentodes

NEW SOCKETS & REPLACEMENT PARTS
 Worldwide Availability

Made in U.S.A.

CALL 800-414-8823
 Int'l (650) 592-1221
 Fax (650) 592-9988

Visit our Web Site at www.eimac.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.

Are you currently a subscriber to Radio World?
 Yes No

Please print and include all information: 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: _____ Model: _____
 Make: _____
 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

Radio World
 5827 Columbia Pike, 3rd Floor Falls Church, VA 22041
 PHONE: 703-998-7600 • FAX: 703-671-7409

Classified Advertising Rates Effective January 1, 2004

	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.

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

ADVERTISER INDEX

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

PAGE	ADVERTISER	WEB SITE URL
31	Air Corp	www.aircorp.biz
16	Armstrong Transmitters	www.armstrongtx.com
38	ATI	www.atiaudio.com
10	Audemat-Aztec Inc.	www.audemat-aztec.com
38	Audion Labs	www.voxpro.net
20	AudioScience	www.audioscience.com
40	Autogram Corporation	www.autogramcorp.com
13	Axia, A Telos Company	www.axiaaudio.com
40	Bext	www.bext.com
40	Broadcast Devices, Inc.	www.broadcast-devices.com
15	Broadcast Electronics	www.bdcast.com
17	Broadcast Electronics	www.bdcast.com
12	Broadcast Tools	www.broadcasttools.com
24, 25	BSW	www.bswusa.com
4	Burk Technology	www.burk.com
31	Circuit Werkes	www.circuitwerkes.com
37	CKE/HVCA	www.rectifiers.com
38	Comet North America	www.cometna.com
7	Comrex	www.comrex.com
1	Continental Electronics	www.contelec.com
38	Cortana	www.cortanacorporation.com
6	Digigram	www.digigram.com
3	Electronics Research Inc.	www.eriinc.com
33	Full Compass	www.fullcompass.com
31	Gorman-Redlich Mfg. Co.	www.gorman-redlich.com
28	Grace Broadcast Sales	www.gracebroadcast.com
19	Harris	www.broadcast.harris.com
32	Henry Engineering	www.henryeng.com
18	Inovonics	www.inovon.com
8	Kintronic Labs	www.kintronic.com
38	LBA Technology	www.lbagroup.com
14	Logitek	www.logitekaudio.com
40	Mager Systems	www.magersystems.com
37	Mouser Electronics	www.mouser.com
9	Omnia, a Telos Company	www.omniaaudio.com
21	OMT Technologies	www.imediatouch.com
27	Prophet Systems Innovations	www.nexgen101.com
5	Radio Systems	www.radiosystems.com
31	Raduga Automation	www.raduga.net
40	rfSoftware, Inc.	www.rfsoftware.com
28	RJB Broadcast	www.rjbbroadcast.com
31	S.C.M.S.	www.scmsinc.com
35	Scott Studios	www.voicetracker.com
29	Sine Systems	www.sinesystems.com
31	Star Case Mfg. Co, Inc.	www.starcase.com/rack.htm
22	Telos Systems	www.telos-systems.com
11	Tieline America	www.tieline.com/rw
2	Wheatstone	www.audioarts.net
47	Wheatstone	www.wheatstone.com
48	Wheatstone	www.wheatstone.com
28	www.radio-mall.com	www.radio-mall.com

◆ READER'S FORUM ◆

Radio World, October 20, 2004

GUEST COMMENTARY

Fight Mandatory Program Logs

A Broadcasting CEO Asks the FCC: Must We Sacrifice the Constitution for Content Control?

by Vern J. Kaspar

As an FCC licensee dating back to the 1930s, I saw the FCC and other responsible people in our regulatory system becoming increasingly frustrated with what was happening to our industry, in terms of offensive content and programming. It became evident to me, from the FCC's proposed MB Docket No. 04-232, that the commission did not know how to go about the problem and was grabbing at straws for a solution. This is dangerous, and indicates that our industry regulators are so close to the problem that it is difficult for the FCC to see it clearly.

The FCC is severely handicapped, working with a regulatory "game plan" and a "regulatory mentality" that essentially was set back in the 1930s. The problems in today's world are not the problems of a world in which you could buy milk for a nickel a quart and you could leave your home and car unlocked. I wanted to bring to the attention of the modern FCC that it will continually be frustrated by — and worse yet, do damage to — our wonderful constitutional system if they keep trying to solve 21st century problems with 1930s tools.

If the FCC wants to regulate our industry without causing grave damage to the public and our constitutional system of government, it will have to change its paradigm. I hope to have shed some light on how the FCC can do so in my Docket 04-232 filing.

Dear Sirs:

I submit this filing with 68 years of being an FCC licensee. I hold, and have held, several FCC licenses over those 68 years.

The frustration that members of the FCC are having over the stupid and unwise antics of a few bad apples in our broadcast industry is understandable. The answer is not to burden good broadcasters, and in the process, change the landscape of our proven concept of a unique American broadcast system. The answer is not to put an unconstitutional "chill of government oversight" on a broadcast system that has helped make America great.

I see this as the FCC attempting to improperly shift its governmental burden of rule enforcement to broadcasters, rather than performing whatever monitoring functions it deems necessary to enforce its rules. Mandatory recording of programming violates the First Amendment of our Constitution by presenting the risk of direct governmental interference in program content. This simply is "government overreach."

Furthermore, after being licensed by the FCC for 68 years, it is our view that the proposal of MB Docket No. 04-232 demonstrates the agency has lost touch with the reality of local broadcasting and broadcasters.

Please don't overlook the fact that there is much more than the equipment cost

involved. There is the cost of staff time, archiving and the cost of the inevitable FCC report that will have to be filed to document compliance. This is a slippery slope to seriously degrading a broadcast system that is by and large not broken and certainly American to the core. It fits with our freedoms. Responsibility safeguards freedom — but sadly, some of our broadcast brothers are not wise enough to see that.

Sharp shooter

As an FCC commissioner, how would I fix it?

First, drop the "one size fits all" concept. Hundreds of small-market radio broadcasters, as well as other broadcasters, generally do a superb job of serving their communities. These people are close to their community and would no more violate their trust than they would tell filthy jokes at the local Rotary club meeting. They are responsible. Period. These are the people you would punish or possibly put out of business.

Punish the large broadcaster who is out of touch with his local Rotary club values and pandering to the lowest in human nature — out for the buck. Then there's television, but I won't even get into that.

I would suggest that the FCC take the trouble to think through some of the suggestions named here. In doing so, I am sure the commission would realize that the majority of broadcasters, (in) small markets in particular, are not the ones causing the indecency problem. They should not be punished for the transgressions of a few licensees who have lost their sense of responsibility. The bulk of the licensees are not causing the indecency problem. Period. Don't use a buck shot-loaded gun where a sharp shooting rifle is indicated.

It is time for the FCC to stop looking blindly at licensees without realizing the profiles of the broadcasters they license. It is time for the FCC to consider changing its paradigm. It is time for the FCC to realize and analyze just what they are dealing with in licensees. The FCC proposal MB Docket No. 04-232 is unconstitutional, as it is in violation of the First Amendment of our U.S. Constitution.

This proposed intrusive way for the FCC to enforce its rules by making the totality of the station's programming content subject to governmental review is not what the United States of America is all about. This slippery slope will take our great country into an area that is abhorrent and not worthy its history. Our government will finally be directly involved with program content. That is abhorrent to the principles that serve as a magnet, drawing people into this great country.

This FCC proposal is the worst proposal I have seen in my 68 years of being an FCC licensee.

The author is the CEO of Kaspar Broadcasting in Frankfort, Ind.

Our readers have something to say

"I read the magazine nearly cover to cover before leaving the post office."

Gary Kline
Corporate Director of Engineering
Cumulus Media Inc.

Radio World

The Newspaper for Radio Managers and Engineers

◆ READER'S FORUM ◆

Hunting Pirates

In his nearly 60-inch article, which starts on the front page and fills two inside pages ("Company Hunts Pirates," June 16), the author (and Signal Finder "salesman") fails to answer several questions that start with the word "why."



Why are the pirate-hunters no longer working for Clear Channel or Motorola? Could it be their knees finally gave out and they can no longer climb towers, or their medical benefits were costing their mega-corporation too much money? Or were they simply "let go" due to another round of conglomeration, as so many experienced engineers have been in the last decade?

Why is it that the author finds it convenient to quote the fines levied on unlicensed stations from the Communications Act of 1934, but fails to add that licensed broadcasters should be operating in the "convenience and necessity" of the local community? Why would broadcasters be worried about the fact that they have to "compete with pirates for listeners and advertising dollars" if their stations were serving the community, instead of spewing out satellite-delivered radio pabulum to the market?

Why have the NAB and RAB fought so tenaciously against legitimate LPAM and LPFM signals entering their market area? Are they afraid they'll lose even more listeners because these stations would provide local counter-programming of interest to area citizens?

Why does the article talk about so many station groups "having talks with" or "considering using their service" and not just hire the signal vigilantes? Could it be the pirate stations are more of an annoyance to the mega-casters than a real threat? Why does the article read more like a "program-length commercial" than news content?

Why does the state of Florida feel it is necessary to jump on the bandwagon and

not let the federal agency — set up to "protect and serve" citizens' ears — do the job?

D. F. Ashton
Portland, Ore.

Fair and Balanced?

Two improvements that XM could make on their new NPR signal that would attract many current public broadcasting NPR listeners:

Take a Fox News strategy (just right of center, politically), so the news avoids trashing the Bush administration in every other story, and use the Wall Street Journal instead of Mother Jones as background for business news reporting.

The existing NPR has a great format and interesting features, but the excessive liberal bias in news and commentary is just too much for many of us in the heartland. Your recent satire ("Defining Ethics and Fairness at NPR," June 2) of a few months back gave us many laughs, it arrived just as NPR shifted from standard, subtle undermining of conservatism to full-moon, foaming-at-the-mouth, raving-lunatic attacks on the Republicans during the election season.

If we could get business news without the Radio Cuba editorial slant, and if Bob Edwards could keep from choking on phrases like "free market economy," "success stories from Iraq" and "liberal Congressman Ted Kennedy," XMSR might have a real winner.

Michael Lowery
Colorado Springs, Colo.

Cooperation Yields Tolerance

Thanks for the good article on Pakistani and Indian radio cooperation ("Indians, Pakistanis Have Radio Voice," Aug. 1).

This article proves that people can work together if they are willing to maintain courtesy and allow others the freedom they themselves enjoy. This principle is underscored by the present need to have American soldiers in many places of the world.

When people are not willing to allow divergent views to impede the progress of regular everyday life then we can call that day a success, and we also call that the foundation of freedom — something that we all need more of in this old world. As to the divergent views of religion, culture and other matters, that is where the principles of patience and personal, as well as public discussion come in.

Leonard Kahn: Hard to Love, Hard to Ignore

Hey, who switched on the time machine? Did we just jump back in time a decade or more?

George Bush is running for reelection. Joe Gibbs and Bill Parcells are facing off in the NFL. And Leonard Kahn is mad.

It's like old times.

We may in fact now be dealing with the younger Bush and an older Gibbs. But it sure feels like the same Leonard Kahn, flashing brilliance, asking uncomfortable questions, maddeningly suspicious of others — sometimes all at once, and often to his own detriment.

The engineer best known to the industry for his innovations and rants on AM stereo is unhappy these days with Radio World's coverage of IBOC and his Cam-D system, which he proposes as an alternative to HD Radio.

In a letter received by IMAS Publishing in September, Kahn accused this newspaper of staging an interview with IBOC proponent Tom Ray of Buckley Broadcasting; taking his FCC filings out of context; and possibly conducting ourselves unprofessionally by showing a "willingness to participate in a plan to deceive the broadcasters and the public they serve" regarding the engineering characteristics of the IBOC system.

In truth, many people would not even be aware of Kahn's Cam-D system were it not for substantial coverage we've published in print and online. As Radio World does with any contentious issue, we've aired viewpoints from all sides, including those that diverge from ours.

Even as his letter arrived, Radio World's Sept. 24 issue hit the streets, including a full-page response article called "IBOC System Is Defective," penned by Kahn himself. It was his second bylined article in RW since June. And Radio World has pressed Kahn to share information about his digital radio plan more frequently and openly than he has been willing to do.

Some industry observers have argued to us, quietly, that we shouldn't even give the man a platform for his ideas. We disagree with that conclusion; but sometimes Kahn is hard to love. He doesn't know how to use a communication channel to his benefit. He is given a pulpit and the chance to bring awareness of his ideas to a broad audience; but when challenged about his strongly stated opinions, he blames others instead of stepping up to a lucid defense.

Kahn has hurt his cause more than any trade publication could. He has done so by not revealing technical details of his proposal; by waiting far too long to propose his alternative digital radio plan; and by verbally lashing out at all and sundry rather than participating in industry standards discussions.

For instance, he said this summer he would have liked to test his system on a New York AM station but he couldn't because, he said, he had been "shut out" of all suitable facilities due to a "misuse of monopoly power" perpetuated by Ibiqity, the FCC, NPR and NAB. Unsubstantiated statements like that just make it harder to take him seriously.

Kahn has been making bold claims about his system for years, but the industry knows nothing of the details or test results. If he truly has a system with scientific merit that works, he should be offering it up for testing by responsible independent parties or at least publishing his own test procedures and results to allow bona fide national recognition and study. Absent that, the industry at large, including virtually all experts on IBOC/digital technology, remain rightly skeptical and can only conclude his proposal is smoke.

The thing is, the man does ask important questions — about IBOC, or whatever the topic of the day — which might provide important genesis for further debate if he were a more responsible critic.

For the record: Radio World is committed to balanced, in-depth coverage of technical issues facing radio, and we are open to publishing opinions that disagree with ours. We stand by our coverage.

In his letter, Kahn notifies Radio World that he will never be interviewed by our publication, or any IMAS publications, in the future.

Some will say good riddance; but in fact, withdrawal from the debate is a loss for Kahn and for the industry. Radio needs to hear more, not less, from the unconventional thinkers.

— RW

We can maintain open conversation and social intercourse if we are willing to denounce principles of violence and the killing of those with whom we disagree. And that is the value of

America to the world at large.

Let us not forget that.

Stanley B. Adams
Memphis RF Engineering
Memphis, Tenn.

—EDITORIAL STAFF—

Paul J. McLane	ext. 117	Editor
Leslie Stimson	ext. 129	News Editor/Wash. Bureau Chief
Kelly Brooks	ext. 136	Associate Editor
Thomas R. McGinley	—	Technical Adviser
Alan Peterson	—	Technical Adviser
John Bisset	—	Contributing Editor
Skip Pizzi	—	Contributing Editor
T. Carter Ross	ext. 120	Editorial Director
Marguerite Clark	—	Editor (International), Milan
Rogelio Ocampo	ext. 121	Latin America Editor in Chief
Karina Gerardi	ext. 137	Latin America Editor
Teresa Geary	ext. 126	Assistant Editor (International)
Terry Hanley	ext. 130	Editorial Assistant & Listings Coordinator
Peter Finch	—	Editorial Assistant, Milan

—EDITORIAL CONTRIBUTORS—

W.C. Alexander, Bruce Bartlett, Frank Beacham, Naina N. Chernoff, Harry Cole, Troy Conner, Vince Ditingo, Mark Durenberger, Charles Fitch, Ty Ford, Scott Fybush, Harold Hallikainen, Jeff Johnson, Craig Johnston, Paul Kaminski, Peter King, Mark Lapidus, Mark Persons, Sharon Rae Pettigrew, Michael LeClair, Carl Lindemann, Frank R. Montero, Ted Nahil, Tom Osenkowsky, Ken R., Rich Rarey, Randy Stine, Travis the V/D Guy, Barry Umanaky, Tom Vernon.

Radio World

Vol. 28, No. 21 October 20, 2004

Telephone: (703) 998-7600 • Business Fax: (703) 998-2966 • Editorial Fax: (703) 820-3245
E-mail: radioworld@imaspub.com • Web site: www.rwonline.com

—ADVERTISING SALES REPRESENTATIVES—

US East: John Casey	330-342-8361	Fax: 330-342-8362	e-mail: jcasey@imaspub.com
US West: Dale Tucker	916-721-3410	Fax: 916-729-0810	e-mail: dtucker@imaspub.com
Product Showcase & Classified Ads: Simone Fewell	703-998-7600 x154	Fax: 703-671-7409	e-mail: sfewell@imaspub.com
European Sales Mgr., Africa, Middle East: Raffaella Calabrese	+39-02-7030-0310	Fax: +39-02-7030-0211	e-mail: rcalabrese@imaspub.com
Japan: Eiji Yoshikawa	+81-3-3327-2688	Fax: +81-3-3327-3010	e-mail: callem@msn.com
Asia/Pacific: Wengong Wang	+86-755-5785161	Fax: +86-755-5785160	e-mail: ww@imaschina.com
Latin America: Alan Carter	703-998-7600 x111	Fax: 703-671-7409	e-mail: acarter@imaspub.com

NEXT ISSUE OF RADIO WORLD NOVEMBER 3, 2004

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.

—ADMINISTRATION & PRODUCTION—

Stevan B. Dana	President/CEO
Carmel King	VPI/Group Publisher
Marlene Lane	COO
Chuck Inderrieden	CFO
Eric Trabb	Sales & Marketing Director
John Casey	Associate Publisher
Davis White	Production Director
Melissa SE Robertson	Production Publication Coordinator
Kathy Jackson	Ad Traffic Manager
Linda Sultan	Classified/Product Showcase Layout
Robert Green	Circulation Manager



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 Emmily Wilson, P.O. Box 1214, Falls Church, VA 22041; (703) 998-7600 ext. 148; Fax: (703) 998-2966. Copyright 2004 by IMAS Publishing (USA), Inc. All rights reserved.

—Printed in the USA—



More.

*The Wheatstone GENERATION-5
has the POWER and FEATURES
Stations Demand the MOST*

LOTS More!

Our Generation-5 provides your operators with a straightforward traditional control surface coupled with all the benefits of digital technology. It gives you the flexibility of system-wide source, mix and destination control (any signal *anywhere*), a powerful mix-minus section and a complete event store, name and recall system. One wire from this surface can control THOUSANDS of wires in your technical operations center.

And while the G-5 *feels* like an analog console, its DSP-based mixing engine keeps your digital sources digital while converting analog sources to switched digital, eliminating crosstalk and noise. It can furnish remote and telcom functionality on any input fader without fear of feedback—a real plus in back-to-back

daily operations. Its built-in graphic displays keep operators on top of things with just a glance. And since the entire system is software based, you can accommodate any format with a press of a button.

Like all our **Generation Series** consoles, the G-5 has complete failsafe options available, such as automatic fail-over DSP and CPU cards and redundant power supplies. We can even provide scheduling software and studio mounted satellite cages that can be configured to mix independently from your main routing system.

At **WHEATSTONE** we've built and sold over a thousand digital audio consoles. The G-5 is a culmination of all that experience. Benefit from our expertise — choose **WHEATSTONE!**

 **Wheatstone**




Behind Every GOOD CONSOLE

There's an EVEN BETTER ROUTER

GENERATION 4

A Straightforward, Easy-to-Use Control Surface



There's no long learning curve required to immediately start using this traditional layout specifically envisioned for operators of all skill levels.

BRIDGE TECHNOLOGY enables the GEN-4 surface to operate far beyond the limits of its studio mainframe. Integration with the Bridge digital audio network router provides systemwide access to all station on-air and off-air audio resources via interlinked CAT-5 or fiberoptic cable. And of course, we all know **EXPERIENCE COUNTS!** With over eighty Wheatstone Generation control surfaces already operating in the field, you can be assured your installation will proceed smoothly and on time.



the digital audio leaders

www.wheatstone.com



Wheatstone

Copyright © 2004 by Wheatstone Corporation