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## Dangerous AM?

KKOL's signal is considered a threat by a Port of Tacoma oil refinery.

Page 38

## Watch That Site

Burk's ARC Plus lets you watch live security camera images. That and other tips in *Workbench*.



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# Radio World.

\$2.50

The Newspaper for Radio Managers and Engineers

June 20, 2007

## DA Proposal Could Be 'Fast-Tracked'

by Randy J. Stine

**WASHINGTON** A rulemaking request to modify the means of verifying AM directional antenna performance could be "fast-tracked" at the FCC thanks to the overwhelming support of large AM broadcasters.

A coalition of broadcasters, equipment manufacturers and consulting engineers is seeking approval to use modern computerized methods of AM antenna pattern prediction modeling known as Method-of-Moments (MoM) computer modeling.

The proposed modifications were filed to MM Docket No. 93-177. The FCC comments on the proposal by July 23. Coalition asks that computer model internal array monitoring be on to proof and maintain most 1-wave antenna systems, rather current method of magnetic field measurements.

Components say AM broadcasters will from long-overdue changes by it easier for existing stations to compliance with FCC rules and g broadcasters to upgrade facilite easily.

### ost, less time

"re is too much ambiguity with the set of rules governing AM antenna direction," said Raymond Benedict, radio director of spectrum management speaking on behalf of the coalition. "Computer modeling offers many benefits including the ability to more accurately predict the relationship between shape and internal array parameters such as impedances, voltages and s. It will be less expensive and e-consuming."

computer modeling, which uses Numerical Electromagnetic Code-4 or See AM DA, page 5 ▶



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**Our Summer Product Preview & NAB Product Wrapup.**

See page 4 for photo details.

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## NEWS

## Web Groups Rally Congress on Streaming Rates

**WASHINGTON** Artists, labels, Webcasters and listeners representing SaveNetRadio have been lobbying together in Washington to help rally support for bills designed to reverse upcoming copyright royalty increases for Internet Radio.

Internet radio proponents say unless there is a compromise before these new rates kick in July 15, many Internet radio services will go bankrupt and cease Webcasting. In late May, the Digital Media Association, National Public Radio and several small Webcasters asked a federal appeals court to suspend



Photo courtesy of SaveNetRadio.org

From left: Paul Maloney, AccuRadio; Rep. Wally Herger, R-Calif.; Bill Goldsmith, Radio Paradise; Daniel McSwain, AccuRadio

the July 15 effective date until after the court heard the industry appeals of the CRB decision.

At the urging of SoundExchange, created by the recording industry to distribute royalties to artists, a three-judge panel ruled in March to raise streaming royalties. The fees would eventually be tripled. The new rules also require an annual minimum \$500 fee per Webcaster. The fees are to be retroactive to Jan. 1, 2006.

SoundExchange cites a lack of compliance among some small streamers.

Under the new rates, one Internet broadcaster, Live365, would owe \$7 million to \$8 million this year in fees, compared to \$1.4 million last year.

SoundExchange Executive Director John Simson told The Washington Post the increased royalties could provide new revenue to the music industry as CD sales decline.

SaveNetRadio coalition members lobbied lawmakers in support of the Internet Radio Equality Act, introduced by Reps. Jay Inslee, D-Wash., and Donald Manzullo, R-Ill. Senators Sam Brownback, R-Kan., and Ron Wyden, D-Ore., have introduced companion legislation. The bills would overturn the CRB ruling.

The coalition told representatives and staffers in Congress they believe in compensating artists, but are seeking a fair royalty structure, aligning small Internet radio broadcasters with the same rates of XM and Sirius, which is around 7.5 percent annually.

In late May, SoundExchange offered to extend to small Webcasters through 2010 the terms of prior legislation known as the Small Webcaster Settlement Act; the 2002 act that sunset in 2005 had set temporary below-market royalty rates for small Internet stations in order to provide them additional time to build their businesses.

Under the proposal, the rates would stay the same through 2010. After that, small Webcasters would pay royalty fees of 10 percent of all gross revenue up to \$250,000; and 12 percent for all gross revenue above that amount.

A SaveNetRadio spokesman told CNNMoney the proposal would force small Webcasters to remain small and penalize the larger ones.

Ron Maxwell



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# GSS Hopes to Expand Digital Alerts

by Randy J. Stine

**JACKSON, Miss.** A company developing digital emergency alert technology is focusing its efforts first on hurricane-prone states, hoping success in these areas could lead to national implementation of its system.

Global Security Systems, which launched its GSSNet All-Hazards Digital Alert System in Mississippi in 2006, has announced intentions for a similar system in Alabama. Florida broadcasters have expressed interest in the technology.

After tornados struck central Florida in the pre-dawn in early February, Pat Roberts, president of the Florida Association of Broadcasters, told the Orlando Sentinel newspaper that he would recommend the board help GSS "get their system going because it relies on the most widely available platform in the world: FM radio. I'm supportive of multiple ways of public warning, but I still believe in old-time radio," said Roberts, who chairs Florida's Emergency Communication Committee.

Proponents of the GSS plan say the company's digital alert system remains robust in the critical initial hours after an emergency by using FM subcarrier frequencies when other communication systems, such as cell phones, become overloaded.



Matthew Straeb of Global Security Systems, left, and P.S. Sundara of Technomedia India and Alert-FM discussed alerting products at NAB2007.

ability to transmit alerts to cell phones.

The FCC Commercial Mobile Service Alert Advisory Committee was formed after Congress passed the Warning, Alert and Response Network, or WARN, last fall in an effort to direct the private and public sectors to develop system improvements to people in case of a ter-

The message is encoded and then transmitted over FM subcarrier to mobile devices equipped with a standard FM receiver chip, such as pagers, cell phones, PDAs and other devices.

GSS has since begun marketing and selling a battery-operated GSS receiver for sale to the general public via its Web site and through several retail locations in Mississippi. The company is marketing the equipment to schools, hospitals and even casinos in heavily populated areas.

The travel alarm-sized receiver, called the HR-1000 Personal Receiver, displays text messages and sounds an audible alarm. It lists for around \$50. A First Responder Alert Receiver, which is printer-compatible, lists for \$300.

"The cost of doing this is very reasonable since we are leveraging the FM infrastructure already in place," said Matthew Straeb, vice president of sales and marketing, who added there is no subscription fee to receive the service. There is a one-time equipment cost.

Participation has been virtually free for Mississippi broadcasters, too, since their digital EAS receiver equipment was partially paid for by grants from the Department of Homeland Security.

As a bonus for broadcasters, the GSSNet system also can deliver enhanced RDS data, Radio Text+ over the FM sta-

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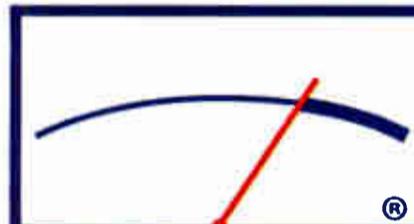
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Elsewhere, the board of the Alabama Broadcasters Association has approved a resolution endorsing a statewide emergency notification network using the GSSNet system. For now, participants would include the Cox Radio cluster of stations in Birmingham, Ala., and Williams Communications group in Anniston, Ala., and possibly other stations, said Sharon Tinsley, executive director of the Alabama Broadcasters Association.

#### Tornado deaths

"We like what GSS is doing and think the FM broadcasters in the state are excited about getting behind the project. We are in the very early stages at this point," Tinsley said.

After a tornado killed eight teenagers at a high school in Enterprise, Ala., in March, Tinsley expects the state will go forward with the GSSNet system.

"The Alabama Emergency Management Agency is considering the investment at this time to place encoders in county and/or regional emergency management agency offices," Tinsley added.

The latest developments come as members of an FCC advisory committee are developing technical standards and protocols for a national emergency alert system giving mobile phone carriers the

ability to transmit alerts to cell phones.

The commission and the Department of Homeland Security are considering several technology platforms as part of the Integrated Public alert and Warning System, or IPAWS.

GSS launched its digital alert system in Mississippi late last year and now says it has more than 60 FM stations capable of receiving alerts sent by officials in the state emergency operations center via satellite. The FM stations then transmit text messages via FM subcarriers to local emergency officials and private citizens who are equipped with a portable, pager-sized receiver device.

#### GSS receivers

Company officials say the single-to-multi-point messaging system can be used in the event that the cell phones and radios of first responders are overloaded in the aftermath of an emergency.

During the Mississippi test last fall, the Federal Emergency Management Agency's DEAS delivered EAS text messages via FM radio signals to cell phones of test participants. Emergency personnel initiated alerts. Those were uplinked to satellite and then downlinked to FM stations equipped with the GSSNet satellite receiver.

tion's subcarrier, Straeb said.

"Homeland Security likes this, we have FEMA's support and most importantly, broadcasters are helping us," Straeb said. "The Gulf Coast has the greatest need for this type of warning system, but it has practical applications across the country."

States and local municipalities can purchase a \$25,000 GSS AlertFM Local Portal to create and distribute local alert notifications, Straeb said. The computer server allows emergency managers to create specific messaging groups, such as first responders and police. The software can also send alerts to specific Zip codes.

GSS, a privately owned company founded in 2003, is based in Jackson, Miss. In May, GSS announced its involvement with America's Emergency Network, a collaboration with WFOR(TV), Miami and former National Hurricane Center Director Max Mayfield on a nationwide alerting system with several components.

The firm is a systems integrator, service provider and manufacturer of homeland security and natural disaster first alert systems. Former NAB President/CEO Eddie Fritts represents the firm and is working on its behalf to promote the GSSNet All-Hazards Digital Alert System.

# HD Marketing: Time to Go 'Big-League'

HD Radio broadcasters need to stop congratulating themselves for their promotion of the format so far and get serious about the Herculean task in front of them.

The most important technological change in radio broadcasting since FM stereo is going to fail if station owners, their alliance and Ibiuity do not approach this as a major-league marketing problem. So far they've not.

Reliable numbers of digital radio consumption are hard to come by but that will change as more data firms scrutinize the format. What will they find?

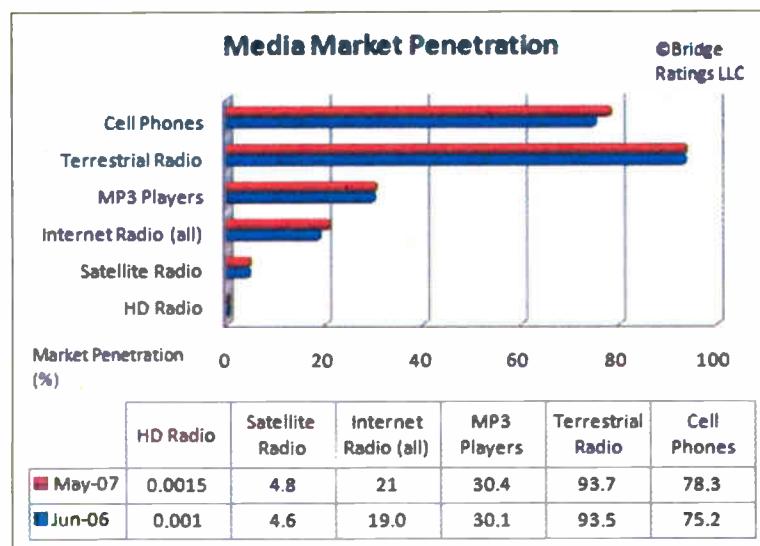
A recent study from Bridge Ratings indicates that among Americans using various mobile audio media, traditional terrestrial radio continues to dominate market penetration. In the number of people listening for five minutes or more in a typical week, radio outpaces even cell phones.

But while 93.5 percent of us listen to radio and 30 percent use iPods and other MP3 players, HD Radio is off the chart the wrong way. The percentage using HD Radio in a given week: 0.0015. Last year at this time: 0.001.

Bridge thinks 57 million Americans listen to some form of Internet radio in a typical week; and satellite has about 15 million subscribers. Meanwhile HD Radio reaches 450,000 weekly users; and I think that estimate probably is high. The company believes the digital format reaches less than 1 percent of the U.S. population.

And when asked if they intend to listen "more, the same or less" in the coming year, owners of HD Radio showed the largest decrease among those who plan to listen "more." People who are signing on to HD Radio are not finding reason to hang around.

In fairness we must note that respondents might not have understood what they were being asked. For instance I can



easily picture consumers thinking they have heard HD Radio when what they've heard, perhaps, are ads for it. But this is because the typical American consumer still doesn't know what HD Radio is, much less can they explain to you in 10 seconds or less the basic reasons for buying one.

The marketing of HD Radio to date is vastly under-funded and underachieving.

All well and good are promises to air lots of radio spots, and supporters of that approach can cite a powerful argument: "If we believe in the medium of radio, we should use the medium of radio."

That's true. But professional marketers also know that a radio campaign is but one piece in a successful national, full-blown marketing push.

Don't tell me about the value of radio ads you've "donated" to this cause. Tell me how much cash you've spent on other media.

I want to see TV spots, newspaper ads, aggressive receiver co-op programs, giveaways on college campuses tied to hip musical talent.

I want HD Radio user blogs, cover stories on Crutchfield catalogues and a heck of a lot more radio airtime than we've heard to date.

I want 20 times more discussion than we've heard about fresh programming on multicast channels and I want our industry

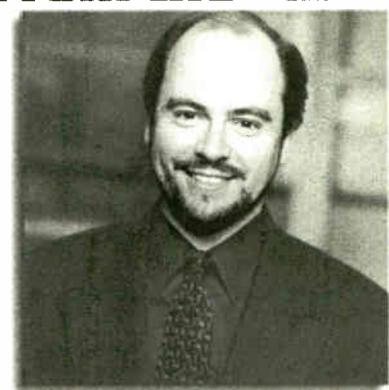
leaders to celebrate those innovations. (The problem here is that I'm asking established players to celebrate the very people who disrupt their established practices. Hard to do, but forward-thinking executives are capable of that, and I believe at least some big radio groups are led by such executives.)

Basically I want HD Radio's equivalent of the satellite receiver falling out of the sky and onto American TV screens.

Satellite radio offers a lesson to us. That infant industry was successful in substantially moving the awareness meter of American consumers. Satellite has other problems; whether it will succeed will depend more on keeping ahead of its outrageous startup costs than on selling its essential benefits.

Radio doesn't suffer from that burden. The IBOC format was chosen in large part exactly because it plays to radio's strengths and existing infrastructure. It's

## From the Editor



### Paul J. McLane

time to capitalize on the competitive advantage and spend money on telling people about a better product already available to them on the dial.

Don't wait until every radio station and every market has HD Radio coverage. Let demand push supply. When a "buzz" bubbles up from among a key group of trend-setters in Boston, Chicago or L.A., the station rollout will take care of itself. But we need the buzz first.

The radio industry has not launched a major-league marketing campaign to promote HD Radio. The time is now.

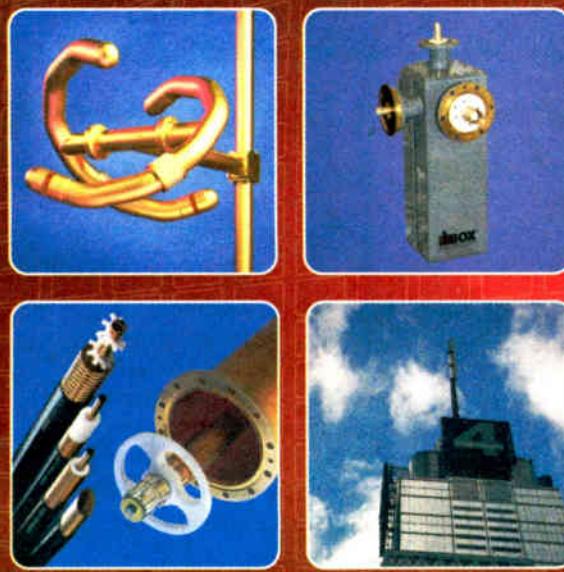
*Comment on this or any article to radioworld@imaspub.com.*

## On the Cover

Show on page 1, clockwise from upper left: 1: Dave Manquin of MANCO and Joe Marshall of Harris explore the RMX Digital Audio Mixing Console System. 2: Elliot Klein of LocallyOwnedRadio in Twin Falls, Idaho, checks loading on an ERI X-Wing Antenna. 3: Rafael Derick of TV Sabado and Aris Palmero of FM 103 in the Dominican Republic talk to Ernie Belanger of Armstrong about the X1000B 1 kW AM transmitter; 4: John Huntley of Cumulus in Rockford, Ill., learns from Angela Gillespie of Shively Labs about the 158NF-04MP motorized coaxial switch. 5: Twyla MacDougall of SCN takes an Optimod 8500 v2 FM audio processor for a test drive with Orban's Kevin Clayborn. 6: Robert McCaffrey and Ross Hering of Holophone with a compact surround sound microphone system; 7: Richard Garrett of Continental and Clifford Groth of Clear Channel in Madison, Wis., examine power supplies in the 816HD20 20 kW HD+Analog FM transmitter. 8: David Day of DaySequerra chats with Larry Holtz of Portland, Ore., about the M2.2R HD Modulation Monitor. (Photos by Jim Peck except Orban photo by Bob Kovacs)



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# AM DA

► Continued from page 1

MININEC, has increasingly become more reliable and cost-effective with more broadcast engineers and consultants relying on it for design and implementation of antenna systems of all types, supporters say.

According to the filing, "Computer modeling does not rely on the oversimplified assumptions contained in the FCC's current rules and therefore can be relied on to predict accurately."

The coalition, called the AM Directional Antenna Performance Verification Coalition, began meeting last fall to examine directional antenna modeling and follow through on a Further Notice of Proposed Rulemaking the FCC issued in 2001 when the commission last overhauled AM antenna proof rules (RW, Feb. 1). The coalition has the support of Clear Channel Radio, Citadel Broadcasting Company, Cox Radio Inc. and many other major broadcast groups.

"The support is there. The timing is right. The industry and even the FCC have been using MoM to verify antennas for some time now. They appear to have grown more comfortable with the technology," Benedict said.

MoM has become more widely accepted as a means to proof AM directional antenna systems worldwide, while radial field measurements often are found to be unreliable because of terrain, seasonal and construction effects, said Ben Dawson, president of Hatfield & Dawson Consulting Engineers.

"It's been obvious to many that computer modeling is really the most scientifically accurate way of determining the performance of antenna arrays as distinguished from the environment," Dawson said. "Specifically, today's urban settings can leave a broadcaster with undesirable effects on field strength readings. Computer modeling can better predict effects of terrain."

Minus a very pristine environment in a rural area, magnetic field strength mea-

urements a very imprecise, Dawson added.

## 'A better way'

"We have a group of licensees who finally realized that in order to manage the complexity and cost of managing and maintaining directional AM antennas in a modern urban environment there needed to be a better way," Dawson said.

The group's proposed rules and rule modifications would require broadcasters to submit proof of performance using

cessing process. It will take less staff time to evaluate proof of performance. It should take less time to evaluate the data than typical magnetic field measurements," Dawson said.

Even if the new rules are adopted, the FCC could come back to a broadcaster and ask for magnetic field measurements to determine directional antenna performance, Dawson added.

Opposition to the AM directional antenna rules and modifications appears to be minimal, said Dawson. If there is

**The industry and even the FCC have been using MoM to verify antennas for some time now.**

— Ray Benedict

Method-of-Moments modeling and internal array parameters to re-certify the performance of their directional antenna pattern once every 24-month period.

The request also addresses broadcasters' needs to evaluate the effects of reradiating, resulting from construction near an AM antenna system. Benedict specifically mentioned cellular towers as an area of concern.

"We are working with the cell tower industry to standardize the expectations and eliminate a growing concern for broadcasters," Benedict said. "These changes could save broadcasters tens of thousands of dollars and reduce interference in the AM band."

The FCC declined to comment about the rulemaking. However, Benedict and others believe this particular rule request will be "fast-tracked."

"I may be overly optimistic, but I believe it is possible for the commission to issue a rulemaking as early as this fall sometime," said Benedict, who along with Dawson and others worked on the wording of the proposed modifications.

"The commission will likely act with expediency. (Computer modeling) benefits them because it streamlines the pro-

any opposition, public comments presumably would be filed to the FCC in this docket.

"But like all administrative processes it is not an entirely technical process. It is a political one as well," he said. Neither Benedict nor Dawson would speculate which groups or industries, if any, could be opposed to the coalition's request.

The coalition has asked the FCC to release the proposed rules and modifications for public comment in connection with the Further Notice. The public comment is followed by a 30-day reply comment period before the FCC can issue any official rulemaking.

## AM DA Performance Verification Coalition

### Broadcasters:

ABC/Disney  
Beasley Broadcast Group Inc.  
Bonneville International  
Buckley Broadcasting  
CBS Radio Inc.  
Citadel Broadcasting Co.  
Clear Channel Radio  
Cox Radio Inc.  
Crawford Broadcasting Co.  
Cumulus Media Inc.  
Entercom Communications Corp.  
Entravision Communications Corp.  
Family Stations Inc.  
Journal Broadcast Group  
Lincoln Financial Media  
Morris Communications Co.  
Multicultural Radio Broadcasting Inc.  
Peak Broadcasting LLC  
Regent Communications  
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### Consulting Engineers/Equipment Manufacturers:

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Hammett & Edison Inc.  
Hatfield & Dawson Consulting Engineers  
Khanna & Guill Inc.  
Radiotechniques Manufacturing  
Sellmeyer Engineering

*Here's a synopsis of the coalition's proposed rule changes.*

#### 1. Section 73.151: DA Performance Verification

The option of using computer modeling via Method of Moments (MoM) coupled with the use of calibrated and conforming sampling systems is being added to the existing rule and prescribed method of field strength proof of performance measurement verification. The specifics of the MoM program to be used are not identified, but presumably it would be done with NEC or with MININEC-4, an evolved program inspired by NEC using different algorithms that can run on a PC.

#### 2. Section 73.155: Periodic DA Performance Recertification

If an AM station chooses computer modeling and maintenance of parameters derived from that method, it shall certify performance compliance once every 24 months in writing and retain the certifying document in the Public File. Such certification involves the independent re-measurement of sampling lines and devices to confirm they still perform to the manufacturer's specs.

#### 3. Section 73.61: AM DA Field Strength Measurements

Whenever there may be indications that an AM station's DA is not operating as authorized (typically as the result of FCC inspection), the FCC may require that station to conduct either a partial field proof pursuant to 73.154, or a full proof using MoM modeling and sample system verification pursuant to (revised) 73.151.

#### 4. Disturbance to AM antenna patterns by construction or alteration of nearby structures that generate RF energy:

The coalition says the disparate treatment of such cases found in sections 22.371, 27.63 and 73.1692 would be replaced with a new rule in Part 17 with new language covering realistic scenarios. FCC licensees in any service and ultimately any user of an RF device that emits energy causing pattern disturbance would be required to employ detuning or other means as necessary to resolve such disturbance.

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## NEWS

## DIGITAL NEWS

**Interoperable,  
Sort of**

**PHOENIX** Though satellite radio auto or tabletop receivers aren't interoperable, your mobile phone or other digital device can be. A new version of SelectRadio software lets users hear both Sirius and XM — 162 total channels.

SelectRadio software for wireless handhelds debuted at CES 2006 and is now available to the public. This year, it added podcasts to its lineup of audio content from Internet radio, news and talk channels and satellite radio channels that can be accessed with the software.

The company also expanded its BBC content by adding on-demand programs



Sirius Backseat Video garnered interest at last winter's CES.

from the BBC World Service. Users can access additions for AccuRadio, BBC, radioio, Shoutcast, Sirius, StreetIQ.com and XM or create personalized groups of channels and podcasts.

Access to either Sirius Internet Radio or XM Radio Online channels requires an account, which may be free to existing subscribers or is available separately from XM for \$7.99 per month and from Sirius for \$12.95. The other channels and podcast programs available from the latest SelectRadio software version are free.

**Wireless Groups,  
Sirius Spar  
Over Video**

The WCS Coalition says if the FCC okays Sirius' backseat video product, due out later this year, it should put conditions on the satcaster and make "any video offerings by Sirius secondary to WCS operations."

The group is worried about potentially having to protect Sirius video from interference from wireless users more than they protect satellite radio from interference now.

The wireless group wants the commission to delay the video launch until the FCC implements rules governing the coexistence of wireless services and sat radio in the 2305–2360 MHz band. It also questioned whether video can legitimately be considered an ancillary service to audio.

The wireless coalition includes companies like Sprint Nextel, AT&T, Verizon and BellSouth.

**Roundup**

**NEW-BOAT OWNERS** are more likely to subscribe to satellite radio than are new-vehicle owners, according to J.D. Power and Associates in a report about marine audio. The report measures owner satisfaction with audio systems supplied in new boats of various types. While 28 percent of new boat owners who have a marine audio system report having satellite radio, only 19 percent of new-vehicle owners do, according to J.D. Power.

**XM AND C-SPAN** are working on a new satellite radio channel dedicated to the 2008 presidential election. The 24-hour, commercial-free XM channel, will be called "POTUS '08," referring to the Secret Service acronym for the president. The channel will free to XM receivers and feature news updates, candidate interviews, complete speeches, debate coverage, latest polling results, fundraising status and live call-in shows.

**FINISAR SUIT:** The Associated Press reported that Finisar Corp. sued XM and Sirius for alleged patent copyright infringement. Finisar makes fiber optic systems for telecommunications networks. The company claimed the companies are infringing a patent covering transmission of large data packets using relatively little capacity.

**ZIPCAR, XM PART WAYS:** A two-year contract between XM and a company that rents cars by the hour in several cities has ended; it will not be renewed.

— Leslie Stimson

**"Tomorrow arrived today!"**

"I've built many, many studios all across the Midwest over the years, but our Knoxville Logitek installation was the cleanest, neatest and most advanced layout you can imagine! Almost everything is located in a centralized controlled-environment rack area. The control surface, mics, phone stuff and CD player backups are about the only things left in the studio outside of all the computer controls. The majority of the audio chain takes place within about five feet inside of one equipment rack for each station.

"My biggest problem today isn't how to set up for daily on-air operations, it's how to sell off all the old equipment like distribution amps that I don't need anymore. The Logitek system makes audio 'patching' just as easy as plugging in patch cables for everything. You don't even have to change the type of cable if you change from analog to digital—just re-plug a jumper into an appropriate engine input!

"I'd always dreamed of a studio that worked better for the jock, looked more like what the public thinks a radio star 'cockpit' should look like and yet was easy to take care of. The Logitek system made it possible to build it."

Mark Lucas, Chief Engineer  
Journal Broadcast Group, Knoxville TN



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### Meet Some Real-World Super Heroes...

Mark Ericson and the WOKQ morning team, along with Steve Vanni from Technet, recently used ACCESS to deliver a three hour remote from the top of Mt. Washington. For mere mortals, this would have been an impossible task. The height, the weather, the distance – all conspired to prevent a successful remote. But because they carried ACCESS, they became real-world super heroes.

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

Want to learn more? Contact Comrex to get a FREE booklet that explains ACCESS BRIC technology and how it differs from traditional IP codecs. Become a real-world super hero!



Read more stories of real-world super heroes at [comrex.com](http://comrex.com):

- Springfield, MO: Miraculous ACCESS
- San Diego, CA: Somewhere... Beyond the Sea!
- Boston, MA: Zakk Wylde Concert—Ozzie Osborne's Guitarist Plays for WAAF at a Listener's Workplace!
- Lynn, MA: Toys for Tots—Remote on the Move
- Boston, MA: Car Dealerships at Christmas. ACCESS Delivers.
- UK: ACCESS on VSAT—A Clever Solution From Our Friends in the UK
- Cancun: Sunrise Over IP
- Brockton, MA: Minuteman Communications Always Gets Their Man... um... I Mean, Their Remote
- Alpena/Tawas City, MI: Are You Tired of STL-Over-the-Public-Internet Stories Yet?
- Dallas: The Ticket
- Amarillo, TX: You Gotta Do What You Gotta Do
- Asia: Radio Free Asia—Live From the Himalayas
- Way Up In The Sky: Live From 37,000 Feet

Are YOU a real-world super hero? Log on to [comrex.com](http://comrex.com) and let us know how you've used ACCESS to save the day at an impossible remote!

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Put Comrex On The Line.  
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## Summer Product Preview & NAB Floor Wrapup

Hundreds if not thousands of new products for radio broadcasters were on display at NAB2007. Here are selections. Text in this section is compiled using information from suppliers and is written and edited by Paul McLane, Kelly Brooks, Marguerite Clark, Ty Ford, Scott Fybush, Paul Kaminski, Tom Osenkowsky and J.R. Russ.

See the June 6 issue for coverage of Radio World "Cool Stuff" winners.

Suppliers, if we missed your new product, e-mail us at [radioworld@imaspub.com](mailto:radioworld@imaspub.com) so we can report it soon.

*Left: John Buffaloe of Jumpro explains the company's JTS Test Section to Eric Lane of Digi-Gear. Photo by Bob Kovacs. Right: Sue Qualis and Terry Denbrook of KUOW listen to Connie Miller of Broadcast Tools demo the ProMix12. Photo by Jim Peck.*



### Kintronic Has Web-Accessible Tx Controller

Kintronics Labs showed the Model KTL-WAC/PLC/24VDC Web-accessible directional AM antenna system transmitter and pattern selection controller.

The system allows for a station staff to bring up a replica of the front panel of a directional antenna control system via a browser and enables the operator to select a transmitter or pattern with a click of the computer mouse.



Access to the controller Web port will require a user-defined password. Utilizing a software-driven programmable logic controller to emulate standard relay logic, the controller will require less rack space than a standard relay logic controller.

Features include customer-specified alarm notification via e-mail; alarm history; automatic pattern and/or transmitter switching with atomic clock synchronization; and custom operational reports in a variety of formats. The system is configurable for up to 12 towers and five patterns.

Contact the company in Tennessee at (423) 878-3141 or [www.kintronic.com](http://www.kintronic.com).

### WireCad Helps Keep Track of 'Spaghetti'

WireCad version 5 documentation tools for cable management systems integration were the highlight of the WireCad display.

Lisa Holbrook of sales and marketing explained that WireCad "automates the process of single-line documentation for audio and video facilities." She added that, in addition to broadcast and production facilities, virtually any venue with a large amount of wiring can use WireCad. Among the upgrades in version 5: edit equipment block in place, and a community equipment library server for open source equipment definitions.

Patch Verx also was on display, which creates scaled and easily printable designation strips and layouts for jack fields and patch bays.

Contact the company in Idaho at (866) 273-5298 or [www.wirecad.com](http://www.wirecad.com).

### Harris ZX3500 Expands ZX Line

Harris introduced Intraplex SynchroCast3, a simulcasting product for broadcasters with overlapping transmitters. It uses the Intraplex T1/E1 multiplexer or NetXpress IP multiplexer platform with GPS digital timing to enable a network of transmitters to increase coverage and reduce interference, especially in regions with difficult terrain.

Harris conducted the first display of its ZX3500 transmitter, shown, a 3.5 kW model in its line of ZX low-power transmitters. This is of particular interest to small-market analog FMs that plan to upgrade to HD Radio later, as well as groups or independents that need a compact backup.

The show was the first display of the NeuStar SW4.0 pre-codec conditioning module embedded into the FlexStar HDI-100 Importer. The company also showed its DATAPlus system, which accepts data management from multiple



sources and stores, prioritizes and separately outputs the data to multiple sources including PAD for HD Radio.

The company featured the VistaMax studio audio networking system for larger facilities and VistaMax Envoy for small-to-medium and satellite studio facilities. It premiered VistaMax 500-series code for consoles and cardframes; this software-based platform features enhanced UDP support for external servers, like computer playback systems, to control VistaMax devices remotely and to receive real-time status messages.

Harris showed enhancements to its NetWave digital on-air console and introduced the 4X-A2D, an A/D converter suitable as a companion. The converter may be especially useful for stations broadcasting in HD Radio that are incrementally converting to a digital studio infrastructure, it stated.

The RMXdigital air console also has a new companion, the RMXd8-HL, a rack-mount, self-contained mix-engine or "headless" RMXdigital for controlling and automating content output, especially on auxiliary delivery channels.

Harris and Ibiqity showed an HD Radio electronic programming guide, similar to EPG listings on digital cable and satellite TV systems. They and NDS also showed conditional access technology, as reported here.

It also had a new version of the Sage Endec Emergency Alert System designed to handle both analog and digital signals for EAS distribution; it adds remote control capabilities for studio-to-transmitter communications as well as IP connectivity to allow use of network components for log printing, eliminating the need to buy thermal paper.

Contact the company in Ohio at (513) 459-3400 or [www.broadcast.harris.com](http://www.broadcast.harris.com).

### X-Digital Shows XDS-Pro Receivers

X-Digital Systems exhibited the XDS-Pro4, first in the line of XDS-Pro receivers; it offers up to four audio outputs with 32 relays. Features include live decoding of broadcast media, store & forward and file delivery, copy

split and spot insertion, time shifting and addressability. Clear Channel Satellite Services is a reseller and distributor.

X-Digital also said it had acquired certain assets of StarGuide Digital Networks from DG FastChannel Inc. and secured a patent license for StarGuide patents.

President/CEO Ian Lerner stated, "We plan to integrate StarGuide technology into our XDS-Pro line of satellite receivers, which will further our ability to provide our customers maximum flexibility and control over broadcast content, quality, and management."

Users of StarGuide II and III receivers will be able to transition to the next generation of XDS-Pro receivers.

Contact the company in California at (858) 535-2345 or [www.xdigital.com](http://www.xdigital.com).

### Myat Grows Filter Line

Myat expanded its radio line of filters to include 1 kW and 5 kW models for low-power FM.

The company touts the LPFM/IBOC filter for cool running and "unrivaled" efficiency in a small package. FMBP1000 series filters attenuate unwanted signals to reduce cross-modulation products generated at the transmitter. A three-section filter with cross-coupling allows close-spaced, two-station combining without high losses associated with typical four-section filters, Myat said.



The FMBP1000 is available in three- and four-section designs, with and without cross-coupling.

Contact the company in New Jersey at (201) 684-0100 or [www.myat.com](http://www.myat.com).

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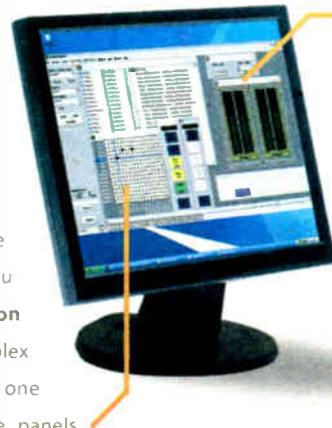
[www.bradleybroadcast.com](http://www.bradleybroadcast.com)

# You're looking at a complete audio-over-IP routing system.

(Just add Cisco.)

**Administer this** • The beauty of the Web is that you can get information anywhere. Same thing with Axia: you can set up and administer an entire building full of Axia equipment – audio nodes, consoles, virtual routers, whatever – from your own comfy office chair. All you need is a standard Web browser (PC or Mac, we like 'em both). Put an Internet gateway in your Axia network and you can even tweak stuff remotely, from home or anywhere there's a Net connection. Hey, isn't it time for a Mochachino?

**It's not rude to point** • Little kids tell mommy what they want by pointing – a pretty intuitive way of doing things. PathfinderPC software gives talent the same convenience. You can build custom "button panels" to execute complex operations with just one click. You can map these panels to controller modules on Element consoles or to turret-mounted controls, place mini-applications on studio computer screens, even run them on touchscreen monitors.



**Jammin' on the mic** • Radio studios and microphones go together like Homer Simpson and donuts. Unfortunately, so do preamps, mic compressors, EQ boxes, de-essers — let's face it: most studios house more flying saucers than Area 51. Axia helps clean up the clutter by including mic preamps with our Microphone Nodes; not bargain-basement units either, but studio grade preamps with headroom enough to handle Chaka Kahn. Phantom power, too. And if you choose to use Axia Element consoles in your studios, you'll find world-class mic processing built right in vocal dynamics (compression and de-essing) from the audio processing gurus at Omnia, plus three-band parametric EQ with SmartQ, available on every mic input. Rap on, Grandmaster.

**Push to play** • Axia Router Selector Nodes are really advanced selector and monitor panels that you can put anywhere you need access to audio streams. Like newsrooms, dubbing stations, or even the station's TOC, so you can monitor any of the thousands of audio streams on your network at a moment's notice. The LCD screen scrolls through a list of available streams; the eight Fast Access keys let you store and recall the streams you use most. There's even an input, for convenient connection of an analog or AES device. Sweet.



**Quick Connect** • Axia I/O is presented on RJ-45 and adheres to the StudioHub+ standard. A couple of clicks and you're done.

**Automation station** • Wouldn't it be cool to have a self-monitoring air chain with silence-sense that can fix problems, then e-mail a status report? To be able to switch your program feed from Studio "A" to Studio "B" with one button? Or build custom switching apps and scheduled scene changes based on Boolean logic and stacking events? PathfinderPC software does all these things and more. But unlike HAL 9000, it doesn't talk back to you.

**Nothin' but Net** • Did you know you can plug a PC directly into an IP Audio network to exchange audio? Can't do that with a mainframe router. Well, you could add more input cards to the mainframe, buy high-end audio cards and run more wiring... but with Axia, you just install the IP-Audio Driver on any Windows® PC to send and receive pure digital audio right through the PC's Ethernet port — no sound card required or additional router inputs needed. The single-stream version is great for audio workstations; the multi-stream version lets you send and record 16 stereo channels simultaneously — perfect for digital automation systems.

**Very logical, Captain** • Routing logic with audio used to be as hard as performing the Vulcan Mind Meld. But Axia makes it simple, converting machine logic to data and pairing it with audio streams. So logic follows audio throughout the facility on Axia's switched Ethernet backbone. Eight assignable GPI/GPO logic ports, each with five opto-isolated inputs/outputs, are built into every Element power supply, so you can control on-air lights, monitor mutes, CD players, DAT decks, profanity delays, etc. Got more than eight audio devices? Add a GPIO node like this one wherever you've got gear.

**AES yes** • You like your audio to stay digital as much as possible, right? We get that; our AES/EBU Audio Nodes let you plug AES3 sources right into the network. Studio-grade sample-rate converters are inside; anything from 32 kHz to 96 kHz will work. Oh, and there are 8 AES ins + 8 AES outs in each node. Digital distribution amp, anyone?

**Brains in the box** • The typical radio jock cares for studio equipment about the same as a five-year-old cares for a puppy: haphazardly, if at all. That's why we took the CPU out of our Element modular console and put it in here, with the power supply and GPIO ports.

That means a greatly reduced chance of being taken off the air by a Coke spilled into the board. Because we know that you have better things to do on a Sunday night than trying to dehumidify circuit boards with a hair dryer.

**Put that in your pipe** • How many discrete wires can a CAT-6 cable replace? Well, a T-3 data link has 44.7 Mbps of throughput. But Axia networks' Gigabit Ethernet links give 1000 Mbps of throughput between studios — more than 22 times the capacity of a T-3; enough for 250 stereo channels per link — the equivalent of a 500-pair bundle on one skinny piece of CAT-6. Use media converters and optical fiber for even higher signal density. Think that might save a little coin in a multi-studio build-out?

**Level headed** • These green, bouncing dots built into every Axia Audio Node are confidence meters. One glance and you know whether an audio source is really active — or just playing possum.



**Heavyweight champion** • This Axia StudioEngine works with our Element Modular Consoles (the fastest-growing console brand in the world, by the way) to direct multiple simultaneous inputs and outputs, mix audio, apply EQ, process voice dynamics, and generate multiple mix-minus and monitor feeds on-the-fly. To make sure it delivers the reliability and ultra low latency broadcast audio demands, we powered the StudioEngine with a fast, robust version of Linux — so fast that total input to output latency is just a few hundred microseconds. How can one little box do so much? There's a blazingly fast Intel processor inside, with enough CPU muscle to lift a small building. Strong and fast: Ali would approve.

**You got to have friends** • Delivery system providers like ENCO, Prophet, BSI, BE, iMediaTouch, DAVID Systems and more all have products that work directly with Axia networks. So do hardware makers like AudioScience, International Datacasting, 25/Seven, Telos and Omnia. Check out the whole list at AxiaAudio.com/partners/.



[AxiaAudio.com](http://AxiaAudio.com)

**SUMMER PRODUCT PREVIEW****BE Puts User In Multicast Driver's Seat'**

Broadcast Electronics released a new software version for its IDi 20 importer unit that it says "literally puts broadcasters in the driver's seat of HD Radio multicasting." Version 2.0, shown, enhances the unit's dashboard-like GUI with bit rate "tachometers," on-console audio level controls and other features for managing multiple program channels from a single seat.



BE said this version also offers significant performance improvements and lets the user re-allocate channel bit rates on the fly, with no need to re-boot importer/exporter pairs when changing audio bit rates, for example.

BE said Google's AdSense for Audio is now offered as a software plug-in for AudioVault.

The company showed a combined 50 kW version of its FMi T Series transmitter line, calling it a powerful new option for high-powered, low-level combined FM HD Radio operations.

The FMi 50T adds to the FMi T Series, consisting of the FMi 17T, FMi 21T and FMi 25T transmitters, offering 50 kW FM+HD Radio output with better than 55 percent overall efficiency.

BE and NDS, with Ibiquity Digital, showcased HD Radio conditional access capabilities; BE also presented a demo of an electronic program guide for HD Radio featuring program schedules of 20 program channels in the Las Vegas area.

The company said its line of solid-state FM HD Radio transmitters exceeds previous benchmarks for output power and spectral performance. BE reported "an average 10 percent increase in output power for low-level combined applications and 25 percent increase in output power for HD Radio only applications," it stated. "This power increase applies to all of its HD Radio solid-state transmitter product lines, and is due in part to the company's ESP technology."

It also showed a Messagecasting tool for radio producers that completes The Radio Experience toolset for text creation and integration between show producer and affiliate station. It announced the availability of a new RDS unit capable of inserting Radio Text Plus (RT+) into the data stream, saying the RDS RT+ Injector unit is the first such generator on the market.

And BE exhibited a new modulator for DRM broadcasting, the AMD 10 DRM Exciter, which can be added to BE medium-wave transmitters to broadcast DRM.

Contact the company in Illinois at (217) 224-9600 or [www.bdcast.com](http://www.bdcast.com).

**D.A.V.I.D. Demos Video For Radio, Podcasting**

Under the theme "D.A.V.I.D. Moves Media," the D.A.V.I.D. Systems booth showcased how the company helps broadcasters leverage their brands and infrastructure to provide content to

new distribution channels.

D.A.V.I.D. manages creation, distribution and coordination of content for on-air playout, Web sites, HD Radio, podcasting, streaming, RDDBS and surround sound receivers.

Visitors were shown surround sound demos and also video for radio, which the company says is suitable for HD Radio, Web sites and mobile phones. Video content is ingested, edited, scheduled and played out to complement audio broadcasts.

Playlists, news stories and archived content that comprise the air product can be presented and accessed through the station's Web site automatically. A Web browser can be used to provide a bi-directional interface to the station's database, easing contributions from reporters and other remote personnel.

Also on display was simplified podcasting. Podcasts can be created automatically from a regular program or with a mouse click on a finished production.

Contact D.A.V.I.D. Systems in Virginia at (888) 374-3040 or [www.davidsystems.us](http://www.davidsystems.us).

**Telos/Omnia/Axia Adds Nx12 Talkshow System, IP Codec**

Telos Systems exhibited the Nx12 Talkshow System, shown, which contains four adaptive digital hybrids and advanced DSP. It is packaged in a slim, 2RU chassis; all four hybrids can be used in a single studio or broadcasters with multi-station facilities can use a Split Studio Mode to serve two studios with two hybrids each. The system works with up to 12 lines and supports analog and digital call circuits.



Telos introduced the Zephyr/IP codec for Internet Protocol applications. It uses MPEG low-delay AAC coding and Agile Connection Technology to adapt to network conditions, minimizing effects of packet loss, varying bandwidth and jitter.

The company said its new Zephyr iPort provides a simple, efficient way to share multiple channels of low-delay, broadcast-quality audio between facilities using IP networks. It has a Livewire interface; when used as part of an IP-Audio network, it transports eight channels of stereo audio plus control between two Livewire-equipped sites over an IP link with only a single Ethernet cable required. For standalone use outside a network, Zephyr iPort can be paired with an Axia Audio AES/EBU or Analog Audio Node for audio I/O.

New from Axia Audio is the iProbe Network Management utility, a network maintenance and diagnostics suite that eases managing, updating and remote-controlling of an Axia system. iProbe lets users manage and maintain large groups of audio devices at once, providing a network administrator a picture of the state of the system.

The company showed an Axia "mini-Element," a console with a smaller footprint suitable for use in news booths and dubbing stations and as workstation mixers. The Element 2-Fader+Monitor module allows clients to order Element consoles in compact sizes of two to 10 faders. Axia also displayed new rack- and turret/furniture-mounted accessory controllers for use with Axia IP-Audio networks.

Omnia Audio exhibited the Omnia.8X, which it calls the first multiple-instance, networked audio processor. It provides eight discrete three-band stereo processors in a 2RU chassis, allowing simultaneous processing for multiple sources in a facility. For example, it could handle multi-

cast or Web audio channels as well as on-demand processing of in-studio performances, remote broadcasts or any other channels.

The company showed the Omnia One processor, which pre-conditions audio to minimize the audible effects of bit-reduction. It uses Sensus technology to monitor content and dynamically optimize processing for the target encoder, which the manufacturer says results in fewer coding artifacts.

Contact the company in Ohio at (216) 241-7225 or [www.telos-systems.com](http://www.telos-systems.com), [www.omniaudio.com](http://www.omniaudio.com) and [www.axiaaudio.com](http://www.axiaaudio.com).

**Musicam USA Debuts Suprima, SupriMAX**

Musicam USA introduced the Suprima 1 RU fan-cooled rack-mount codec, featuring IP/ISDN connectivity (software upgrade via FTP), automatic ISDN failover and remote contact closures. It supports G.722, MPEG Layer 2/Layer 3, AAC LC and MPEG 4 LD, and PCM.

Additional highlights include Dolby E transmission over IP using AES/EBU I/O in transparent mode, LAN interface 10/100 base-T Ethernet for control and audio transmission and SIP compatibility.

Musicam also introduced the SupriMAX 3 RU 14-card multiple IP codec frame, supporting multicast applications. It also features IP/ISDN connectivity and automatic ISDN failover (with optional plug-in card), as well as Dolby E transmission over IP and formats supported by Suprima.

Contact Musicam USA in New Jersey at (732) 739-5600 or [www.musicamusa.com](http://www.musicamusa.com).

**BW Broadcast Introduces DSPXmini**

BW Broadcast debuted its DSPXmini-HD and DSPXmini-FM processors.

The DSPXmini-HD is a four-band broadcast processor suitable for HD2, Internet streams or full DAB and HD services. Features include analog and digital (AES/EBU) inputs, gated AGC, program dependent limiting and RS-232 and TCP/IP net interfaces for remote control. A real-time clock enables preset scheduling.

Additional highlights include a preset trigger port, range of user presets with A/B switching and security (password) control.

The DSPXmini-FM expands the DSPmpX stereo encoder with four bands of audio processing.

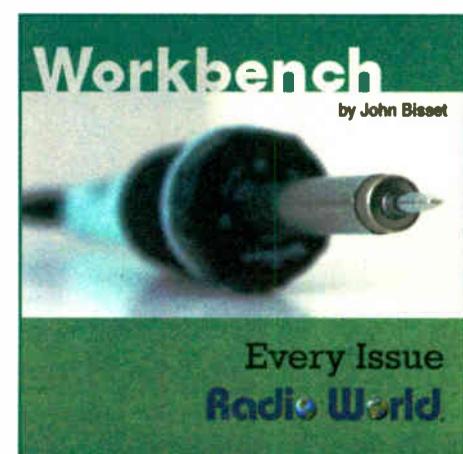
The company also showcased the DSPXtreme audio processor. The 2 RU unit includes two color screens, one of which is touch-sensitive. It is available in four versions: FM, AM, CD and HD.

Features include six bands of audio limiting, distortion-controlled clipping and look-ahead limiting. Connectivity options for remote configuration and monitoring include an Ethernet port for LAN or WAN access, an RS-232 serial port and an 802.11 (WiFi) wireless interface.

Contact distributor Broadcasters General Store in Florida at (352) 622-7700 or [www.bwbroadcast.com](http://www.bwbroadcast.com).

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- Grady Jeffreys,  
Technical Manager,  
Mackay Communications



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Entercom Indianapolis



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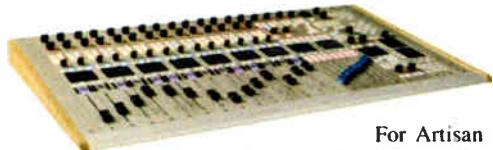
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\*Compatible with Comrex Matrix, Blue, Vector POTS Codecs Comrex is a registered trademark of Comrex corporation

## Logitek Enhances Consoles, Names Australia Dealer

Logitek Electronic Systems announced enhancements to its digital consoles.

The number of possible faders on an Artisan console has been increased from 30 to 32. Also, the Effects module for the Artisan, shown earlier as a prototype, is available. It provides access to EQ and Dynamics settings, offers three levels of adjustment for each parameter — coarse, fine and ultra-fine — and is dynamically re-assigned to whichever Fader Module is being adjusted.



For Artisan users, Pop-up EQ and Dynamics screens are available to display console info on a user's VGA screen. As knobs on the Effects module are used to select parameters, the pop-up screen displays EQ and Dynamics settings.

For Mosaic users, a pop-up Mosaic Fader display with EQ and Dynamics information will place selected information on a user's VGA screen.

vSnapshot, a scene "capture and recall" feature, provides a pop-up GUI that will run on a user's VGA screen. Fifty scene captures are available per control surface, with data saved in user-editable text files.

For applications such as location broadcasting or multi-microphone talk shows, automatic mixing/ducking capability has been added to Logitek consoles. The ramp-up/ramp-down feature allows for smooth transitions between microphones. Sirius Satellite uses this feature for NASCAR events.

Logitek named Bill Hacke as a senior electrical engineer; and the company has formed Logitek Australia, a partnership between Logitek and Dingbat Technology, founded by Paul Dengate. The entity replaces Maser Technology as its dealer in Australia. Keith Edmondson, formerly of Maser, joins in a sales and project planning capacity. Separately, the company appointed Chanson System Company Ltd. to sell in Taiwan, while Media Business Solutions will represent Logitek in Poland.

Contact the company in Texas at (800) 231-5870 or www.logitekaudio.com.

## ANT147 Is Probe With Datalogger

The ANT Group showed the ANT147, a precision, battery-operated RF probe with datalogger.

Similar to the ANT131, it is a stand alone or

## OMNIRAX

### WHAT PEOPLE ARE SAYING ABOUT OMNIRAX...

"Within a short amount of time Omnidax was able to come up with a beautiful concept for our new studios."

"The Omnidax design makes these studios incredible for talent and operators on both sides of the console."

"Our furniture from you not only fit into our budget and timeline, it was very well constructed and looked beautiful. I expect to be outfitting many more facilities with Omnidax..."

"I was impressed with the exceptional care given packaging for shipment. A few very large and potentially fragile components made it cross-country completely unscathed!"

"I wholeheartedly recommend Omnidax to everyone."

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## SUMMER PRODUCT PREVIEW

rack mount probe, powered by 9V battery or DC, that can handle analog as well as digitally modulated signals. Dynamic range is more than 50 dB with precision is ±0.5 dB.

Using the fixed pads (3 dB or 20 dB), dynamic range can be shifted, so that high power or low power can be detected. There are two frequency range versions available: 10 MHz – 1GHz or 900 MHz – 2.5 GHz. Dynamic range can be compressed in order to have a better reading from the built-in 0–5V output. It has the features of the ANT131 but includes a datalogger capable of 91 days of logging (1 second samples). Data can be downloaded to the company's software or Windows Excel or other application that accepts comma-separated data.

Contact the company in Italy at 011-39-036534558 or www.antgroup.it.

## Inovonics BandScanner Sweeps, Logs FM Signals

Inovonics exhibited its Model 261 digital utility processor, shown.

The unit combines the three audio processing functions of gated, gain-riding AGC, program dynamic range compression and final peak control. It may be configured to provide a single basic function independently, or to utilize all processing options for comprehensive program audio control. This gives the broadcaster an economical and unobtrusive means of normalizing and controlling audio levels in an all-digital or mixed-signal plant.

The company also presented the production concept for BandScanner, an FM scanning receiver that plugs into the USB port of a PC



and, with supplied Windows software, sweeps the FM band and logs each signal it comes across. A spectrum display shows carrier level vs. frequency, and stations with an RBDS presence may be analyzed in additional detail.

Contact Inovonics in California at (800) 733-0552 or www.inovonics.com.

## Comrex Ships Access Portable

Comrex said it is now shipping its Access Portable Stereo BRIC IP Codec, which earned Radio World's "Cool Stuff" Award (RW, June 6).

The company said hundreds of rackmount units are in use for a variety of applications.

Features include built-in CardBus/PC Card/PCMCIA, as well as integrated audio connections and rechargeable battery pack. The Ac-

cess Portable is built around Broadcast Reliable Internet Codec technology, which enables broadcasters to use common IP circuits to broadcast reliable, wideband audio with low delay.

Access can use wired circuits like DSL, broadband cable, POTS and T1/E1 as well as wireless circuits like satellite, WiFi, EVDO, UMTS/HSPDA and other 3G wireless data networks.

An optional "clip-on" mixer is available to provide five additional mic/line inputs and headphone outputs. Also available: an optional suite of AAC algorithms including High-Efficiency AA and AAC Low-Delay.

Contact the company in Massachusetts at (978) 784-1776 or www.comrex.com.

## Zaxcom Shows Plug-On Recording Transmitter

The Zaxcom TRX700 plug-on wireless transmitter/recorder, shown, provides 48 V phantom power; it runs on two AA batteries for four hours. It is designed for integration with shotgun-type microphones used in boom-pole applications. List price is \$1,695. A Zaxcom receiver is required. The TRX700 recording option for up



to 12 hours of timecode-referenced audio with an included 256 MB miniSD card is \$295.

Also, Zaxcom debuted the Deva 5.8 hard disk recorder with features such as integrated hardware faders, an internal DVD-RAM drive and a flash media slot.

Deva 5.8 records 10 tracks of audio to a compact Flash memory card. The memory card slot is mounted on the control panel to ease transfer of material from the production site to post-production staff. The company says the internal DVD-RAM drive provides users with a recording alternative and saves space by combining two products into one.

Contact Zaxcom in New Jersey at (973) 835-5000 or www.zaxcom.com.

## APWMayville Debuts PowerMount and Lighting, Cooling Series

APWMayville knows how to accessorize for spring.

The company showed an expanded suite of rack accessories for power, lighting and cooling, customizable with the Stantron rack. In addition to extending its PowerOptions range of thin power strips, it introduced the PowerMount system for mounting vertical power strips within the rack.

The full-length mounting brackets accept most styles and sizes of vertical PowerOptions power strips and is included with each vertical PowerOptions purchase.

PowerMount systems hold power strips in place, while providing the flexibility of affixing strips inside the rack. A 180-degree swivel feature rotates the strip during maintenance or integration procedures such as cabling and access to power cords. The strip can face the front, middle or back of the cabinet.

The company also presented the LightingOptions and CoolingOptions product lines, available with the Stantron Presentation Rack for A/V applications, and E-Rack for broadcast facilities.

Contact APWMayville in Wisconsin at (800) 558-7297 or www.stantronracks.com.

## Valcom Touts 'Maintenance-Free' AM Antennas

Visitors to the Valcom booth were greeted with photos and video of the company's free-standing, fiberglass antennas. Ranging in height from 47 to 85 feet, the "maintenance-free" AM antennas can work in virtually any area, especially where objections to taller, conventional towers are an issue. Spokesman Paul MacPherson said "size matters," and in this case "smaller is better."

The antennas can be tuned for any AM frequency from 540 to 1700 kHz and are suitable for primary, secondary and emergency replacement applications. The display featured an "I survived Hurricane Katrina" photo, showing a Valcom antenna still standing while structures around it were either partially or totally destroyed.

An average weight of only 800 lbs. means many installation options are open atop buildings and other structures.

Contact Valcom in Ontario (519) 824-3220 or www.valcom-guelph.com.



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World Radio History

**SUMMER PRODUCT PREVIEW****Wheatstone Shows Evolution 6**

Wheatstone showed the new Evolution 6 Surface, E-series Studio Satellite and E-series Network Switch, combined to create a cost-effective networked audio system.

Each studio operates independently but can share sources and mixes through the switch. Features include event recall, bus-minus, mix-minus and four aux mixes, four monitor outputs and standard EQ, dynamics, panning and mic processing on all channels (simultaneously), real-time graphic displays, production tools and security-protected set up screens.



Also shown: the Audioarts Air-2+ Radio Console for small-market stations such as college radio and worship facilities seeking high-end features on a budget. Features include phone channel with talkback, two stereo busses and separate control room/studio monitoring.

And the company showed the Vorsis AP-1000 processor, built around a 31-band compressor/limiter with individual thresholds, clipping and filters for each band. The design allows for more detailed compression algorithms than competing six-band processors, the company says.

"Because the AP-1000 operates with such narrow-band filters, it can work on a subcritical band level with the intended high-definition encoders, hence optimizing their processing functions," according to the firm. The multiband compressor stage is followed by a split signal path that provides separate four-band parametric EQ and final limiting for both the HD and FM paths.

Contact the company in North Carolina at (252) 638-7000 or [www.wheatstone.com](http://www.wheatstone.com).

**Barix IP Devices Adapted for EAS Applications**

Engineers are using the Barix Instreamer audio encoding and Exstreamer audio decoding devices for STL and remote pickup applications, and the devices are being deployed for Internet radio broadcasting.

The company says customers have been adapting these products, and the Barix Annunicom IP intercom, for EAS applications in

broadcasting.

CTC Media Group operates four AM stations in the Greenville-New Bern-Jacksonville market in North Carolina and began using the Instreamer and Exstreamer in response to its experiences with failing EAS equipment.



General Manager Mike Afflerbach connected one Instreamer, based at the studio, to the output of an existing EAS system. Once initiated, the EAS system sends audio to the Instreamer, which relays the audio to the Exstreamer devices located at the various transmitter sites. The priority port in each Exstreamer sends the EAS signal to the transmitters for broadcast over the air, and the EAS Instreamer shuts down following the EAS broadcast.

Contact Barix Technology Inc. at (866) 815-0866 or [www.barix.com](http://www.barix.com).

**AudioScience, Axia Partner**

AudioScience debuted the results of its partnership with Axia Audio, the ASI6585 Axia Livewire PCI adapter. The Axia Livewire protocol carries uncompressed, 48 kHz/24 bit audio over Ethernet. It uses R/UDP for streaming



media and HTTP/HTML for its embedded Web page server and control interface, allowing for low delay.

The ASI6585 merges Axia's Livewire with audio processing on one adapter. Using a Texas

Instruments floating point DSP with Axia Livewire networked audio allows the ASI6585 to simultaneously play up to eight streams of audio which can be mixed to eight stereo outputs, and record up to eight audio streams fed from eight stereo inputs, over switched Ethernet. The feature set of the ASI6585 extends to multi-rate mixing, MPEG Layer 2 and 3 encoding and decoding, and TSX time scaling. Two streams are available for SSX multichannel record and playback.

Contact AudioScience in Delaware at (302) 324-5333 or [www.audioscience.com](http://www.audioscience.com).

Contact Independent Audio in Maine at (207) 773-2424 or [www.sonifex.co.uk](http://www.sonifex.co.uk).

**25-Seven Demos Axia Livewire-Enabled ATM**

25-Seven Systems demonstrated its Audio Time Manager time compression processor, now compatible with Axia Audio's Livewire IP-Audio standard for delivering audio over Ethernet.

"We had an ATM running in the Axia booth over Livewire," said 25-Seven Systems President Geoff Steadman. "The back panel of our system has no audio connections, but simply a network cable serving to send and receive IP audio. ATM shows up on the Axia router control software as a native device. Remote control from an Axia control surface triggered ATM, and our browser-based control was easily pulled up on the Axia screens."

"Basically, this demo showcased some serious low-level audio engine work we've done to become Axia-compliant, and the audio demo for us was quite significant," said Steadman. "While this work is applicable to Audio Time Manager for now, it underscores a growing code base that we will be using to introduce other products, both Axia versions and standalone."

Contact 25-Seven Systems in Massachusetts at (888) 257-2578 or [www.25-seven.com](http://www.25-seven.com).

**Audio Developments, Sonifex Show at Independent Audio**

Independent Audio announced product improvements from two of the manufacturers for which it holds North American distribution rights.

Audio Developments (UK) now offers



AES/EBU digital outputs as an option on its AD146 and AD149 mixers. The mixers still retain their analog functionality, and the digital outputs can be retrofitted to existing mixers or ordered as an option on new units.

Sonifex launched a switcher that controls the on-air output from multiple radio studios going to a processor or transmitter.

The RB-OA3, shown, switches three stereo pairs among three studios. Each studio can control the transmission path together with two peripheral paths for equipment such as a codec or hybrid, and there also is a "last studio to offer" bus, allowing for continuous broadcast from a multi-studio radio network. A "sustain" mode sustains a system, such as a PC automation system, to control the broadcast.

Multiple RB-OA3 units can be connected to switch more studios or more stereo pairs. The switching is achieved using relays, except the "last studio to offer," which is switched by an analog switch. The transmission path is switched using latching relays. If there is a power failure to the unit, the transmission path will remain selected.

Studios are connected using 25-way D-types for electronically balanced audio signals, and control is achieved using 15-way D-types, connecting to an external control unit such as the Sonifex S2-MTBS mixer control panel. A transmission mix connection is included to mix audio generic to all studios into the transmission path.

**Danagger Demos Plan B Classic, Intros LifeLine**

Danagger Audio Works demonstrated its Plan B Classic, a one-box dead air prevention system for digital or analog program paths. New features include automatic fallback to analog if the digital source fails.

Danagger also was distributing advance information about its upcoming LifeLine system.

The LifeLine is a rackmountable IP-based backup STL with built-in replacement audio from Flash cards or USB-connected storage. Like the Plan B Classic, the LifeLine will have failure notification, remote control and audio monitoring capabilities, in addition to a suite of logging and audio management features.

Contact Danagger Audio Works in Canada at (888) 892-8346 or [www.danagger.com](http://www.danagger.com).

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*"I am not the most technical guy in the business, but after 32 years in the broadcast business, I know microphones. I plugged in the PR 40 straight into the board without any processing and it absolutely blew me away. Without a doubt the PR 40 is the best broadcast microphone ever developed."*

**- MIKE MCKAY  
BRAVO MIC COMMUNICATIONS  
KVLC 101-GOLD FM  
KXPZ ROCKET 99.5FM**



*"This mic is unbelievable. I have worked with some of the most expensive microphones in the broadcast industry and none, I mean **NONE** compare to the PR 40. I have received reports from stations all over the world about the amazing audio quality of this mic."*

**- GREG HEMMINGS  
WSLS-TV NEWSCHANNEL 10**



*"The Heil PR 40 is incredible. There is absolutely nothing better on the market and I've had the opportunity to use all the standards over the years. The difference is really remarkable."*

**- PD MICHAEL "SHARK" SHARKEY  
WSUN FM 97X  
COX RADIO TAMPA BAY**



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**SUMMER PRODUCT PREVIEW**

## Eventide Highlights BD600E, BD600 v1.5 Software

New in version 1.5 of the Eventide BD600E is a Station Break mode, which allows users seamlessly to insert into the audio program a station break or commercial stored on the Compact Flash card, without increasing show length.

With v1.5, BD600 and BD600E users will be able to send current delay values via RS-232 to drive the external time display or automation system. V1.5 also provides the same functionality for the Dump and Sneeze commands in MicroPrecision Delay mode as in the Profanity Delay mode. Also in v1.5 is the ability to configure the delay to show the amount of delay used or the amount of delay remaining. The new version also features a front-panel Lock-Out to prevent unauthorized tampering.

V1.5 software will be available in July.

Contact the company in New Jersey at (201) 641-1200 or [www.eventide.com](http://www.eventide.com).

## Jampro Expands Sales Team

Jampro expanded its sales staff, naming John Buffaloe to handle domestic sales. Buffaloe has engineering, on-air and management experience including 20 years as engineering manager for Jefferson-Pilot.

The company showed its JLCP Antenna for low-power FM, translator and booster stations. The stainless steel, omni-directional antenna includes a two-inch pole mount and is field-tunable from 88 to 108 MHz. The company says it has higher V-Pol than similar designs, giving better car reception and building penetration. A stacking harness is included in multiple-bay arrays.

Also new: a compact replacement for bulky tuned elbows. The JTS Test Section allows access to the FM antenna or coax system without the need for a tuned elbow complex. It comes with fixed bullets for Input and Output, plus an O ring, hardware set, pass-through connection and test turn.

The RCPU is a quick-release patch panel with low insertion loss. A positive lock mechanism assures quick re-directions of RF signal paths. It is suitable for patching RF feeds to emergency antenna, alternate main/auxiliary transmitters, filter by-pass, master station combiner re-routes and test point insertions. No tools are required to make patches.

Contact the company in California at (916) 383-1177 or [www.jampro.com](http://www.jampro.com).

## Orban 9300 Touts Parametric Low-Pass Filter

Orban/CRL displayed the digital Optimod-AM 9300 monophonic audio processor for AM radio stations, which the company adds more

because their HD-AM digital transmissions require it. The 9300 also features a dual-band AGC with window gating.

The Quick Setup function walks broadcasters through setup. The Less-More control allows the user to customize the 9300's presets. The company says audio processing experts will appreciate the new Advanced Control parameters (accessible from 9300 PC Remote software), which allow users to customize the 9300's sound to exact requirements.

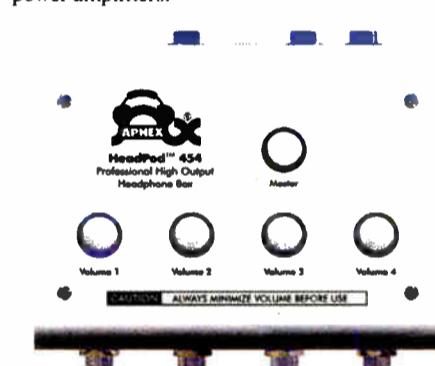
The 9300 features a five-band limiter with distortion-canceling clippers. The audio is divided into five bands, then separately compressed and limited. Orban says five-band limiting operates more quickly than a wide-band compressor without causing audible side effects.

The company also released Optimod-FM 8500 Version 2 software, which it said exploits previously unused DSP power in the 8500. The company said it surpassed 1 million downloads for the Windows Media Plug-in for the Coding Technologies aacPlus audio codec and debuted Optimod-PC 1100 Version 2.1 software.

Contact Orban/CRL in Arizona at (480) 403-8300 or [www.orban.com](http://www.orban.com).

## Aphex HeadPod Avoids Clipping At High Levels

Aphex Systems announced its Model 454 HeadPod headphone distribution amplifier, a four-output pod with four independent stereo power amplifiers.



The company says HeadPod works with any headphone type and provides high headroom to avoid clipping even at high sound levels. Providing low distortion and wide frequency response, the Model 454 also allows for longer listening sessions without listener fatigue.

Individual volume controls are provided for each of the four headphone outputs, made with metal jacks. A master volume control on the HeadPod allows for matching of source levels. It connects to any analog source, with a rear selector switch to choose between balanced sources (discrete left and right) and unbalanced sources, such as stereo on TRS from a headphone amplifier.

Contact Aphex Systems in California at (818) 767-2929 or [www.aphex.com](http://www.aphex.com).

## RDL Shows 18-Watt Stick-On Amp

Radio Design Labs had its ST-PA18 18-watt utility power amplifier on display, part of the company's line of Stick-On products. The bottom adhesive permits permanent or removable mounting, or it may be used with RDL's racking accessories.

The ST-PA18 features a balanced line-level input that may be connected unbalanced. The gain control range accommodates standard unbalanced levels as well as professional balanced levels. The module bridges the input signal.

Loop Out terminals permit a balanced input to be fed to additional amplifier modules, making the ST-PA18 a suitable component in

distributed audio system design. Loop Out also may be used to feed a subwoofer amplifier. The ST-PA18 output drives an 8 ohm speaker or multiple speakers connected to present an 8 ohm load to the amplifier and it is capable of driving 4 ohm loads.

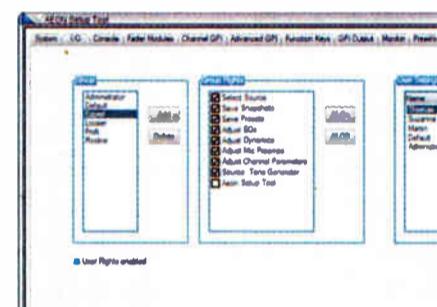


RDL also debuted a stainless steel version of its RLC10K remote level control to match the stainless versions of RDL wall controls, twisted pair products and Decora-style wall plates and remote controls.

Contact Radio Design Labs in Arizona at (800) 281-2683 or [www.rdlnet.com](http://www.rdlnet.com).

## Klotz Ships Aeon With Vadis Router

Klotz Digital announced that its Aeon audio-networking consoles are shipped based on the Vadis 212 router and control engine, effective immediately, and that Aeon is now available with software release 2.0.



The upgrade to 2.0 provides DJs as well as engineers various new features. Via "User Rights Management," the engineer in charge is able to create user groups with individually assigned user rights. The groups are password-protected. Individuals can have the right to change console adjustments according to their level of training; for example, selection of sources to faders; channel presets; storage of snapshots; and adjustment of the parameters, EQ, mic preamp and others.

The company also offers an improved Aeon Setup Tool, shown. Clean feed busses can be changed individually on the console as well as switching of panorama/balance and pre/post fader, allowing flexibility in creating return signals. AST offers access to the specification of the AES output stream format, enabling the user to choose between professional and consumer formats.

Contact Klotz Digital in Georgia at (678) 966-9900 or [www.klotzdigital.com](http://www.klotzdigital.com).

**RemoteMix4 Is New****JK Audio Portable**

JK Audio was at NAB with its new RemoteMix4 portable broadcast field mixer.

Available in July, the mixer will combine a four-channel mixer (with switchable Phantom Power), a four-channel headphone amplifier (each with its own gain control), a phone line hybrid and keypad. It can also connect to cell phones and portables via Bluetooth.



The mixer can be used as a front end for POTS, ISDN or IP codecs. While the main XLR output is pre-limiter, a soft limiter prevents the phone interface from being overdriven. 3.5 mm send and receive jacks can be used for external recording and rolling in sound from an external source. If the 120-240 VAC external power supply is interrupted, the internal batteries automatically take over. Retail price is \$1,395.

Contact the company in Illinois at (800) 552-8346 or [www.jkaudio.com](http://www.jkaudio.com).

**Nagra Plans Ares-MII**

Nagra's latest Ares-M flash recorder comes with 1 GB of storage and will record linear WAV files, MP2 or MP3.

Two AA batteries supply the unit for about 10 hours of record time. Editing functions are included; the list price is \$995.

The Ares-MII will be out in Q3 and have 2 GB of storage and retail of \$1,195. It comes with an internal mono mic and an external stereo mic. A mono XLR to Nagra cable is provided to allow the use of any standard mono microphone. An optional stereo cable with two XLRs is available. The ARES-MII uses USB2 for downloading and come with external power supplies.

Contact the company in Tennessee at (615) 726-5191 or [www.nagraaudio.com](http://www.nagraaudio.com).

**ESE Adds ES188 System**

The ES188 is a new master clock system that accepts timecode from NTP servers and distributes that timecode in a variety of outputs: ESE timecode, SMPTE, NTP timecode, ASCII code and 1 PPSS.



Options include 10-hour extended battery backup and 10 MHz output for transmitter sync. List price is \$2,195. Options are \$50-100 each.

Contact the company in California at (310) 322-2136 or [www.eseweb.com](http://www.eseweb.com).



Visit [radioworld.com](http://radioworld.com) for CoolCast video demos of all the 2007 "Cool Stuff" Award-winning products.



versatile equalization and a parametric low-pass filter to its predecessor, and lets users trade off filter ringing against frequency response flatness.

Orban says this is important as more stations are reducing audio bandwidth voluntarily or

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- With **REAL FM**, listeners will be able to see information on the song and artist currently playing on the radio, buy the ring tone of the song currently playing, and immediately download the song to their device.



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**SUMMER PRODUCT PREVIEW****AKG Extends Perception Series**

Extending the line of its Perception Series, AKG's new Perception 400 condenser mic is a true, large capsule, externally powered condenser three-pattern mic with 10 dB pad and high-pass at 6 dB/octave at 200Hz.

The unit includes shock mount; it retails for \$559, under \$300 on the street.

Contact the company in California at (818) 920-3212 or www.akg.com.

**Holophone Launches A Sidewinder**

Holophone's Sidewinder 6 adapter box and cables can be used to replace the head of the



H4 Super Mini mic, matching either the H2 or H3D mic to Holophone's Dolby Pro Logic II encoder box.

This allows the audio from the multichannel surround mics to be encoded into a Dolby Pro Logic II stream and recorded to any stereo recording device, eliminating the need for multi-track recording equipment.

Virtual surround monitoring employing QSound Surround on the H4 SuperMini allows you to hear what the system is recording. An external mic jack with gain adjustment in the H4 SuperMini ports audio to the center channel to ensure that it remains centered in the surround ambience. List prices: H4 SuperMini \$2,495, Sidewinder 6 accessory \$749, H3D head \$1,695.

Contact the company in Toronto at (416) 362-7790 or www.holophone.com.

**Audio-Technica Highlights UHF Wireless**

Audio-Technica was at NAB with 1800 Series dual-channel UHF wireless mic systems.

The true diversity dual receiver offers two receivers in one housing. It also features automatic frequency scanning and includes a mixer, allowing the level of each mic to be controlled and each mic to be output from separate receiver outputs, or mixed together into a mono mix. The 1800 Series is available as individual transmitters and receivers or as kits comprising a dual-channel receiver with two body-pack transmitters, two plug-on transmitters or a body-pack and plug-on transmitter. The list price of any of the three receiver/transmitter



combinations is \$1,795.

A-T showed its flagship ATH-M50 professional studio monitor headphones as well as the AT2010 cardioid condenser vocal mic, a handheld with estimated street price of \$99, suitable for use where phantom power is available.

Contact the company in Ohio at (330) 686-2600 or www.audio-technica.com.

**You/Com Has Parrot ENG Flash Recorder**

You/Com is promoting the Parrot.

This is a portable Flash recorder that works at the push of one button to do live reports or transmit pre-recorded items via wireless connections (GSM, UMTS, EVDO, HSDPA and WiFi). Audio files can be transmitted with a speed of up to 200 kbps.

"The Parrot is an integrated solution aimed at radio reporters who sometimes need to be live on-air from location, but who also often make a recording beforehand," it stated.

The user can play a pre-recorded item during a live feed; the unit is connected via Bluetooth to a mobile telephone and sets up a digital four-wire connection to the studio.

E-mail mmeulen@youcom.nl or www.youcom.nl.

**Netia Enhances Radio-Assist 7.5**

Netia showed enhancements to its Radio-Assist 7.5 range of digital audio software programs, Manreco asset management software and Media Logging range.

It integrated the U-Share network management system into Radio-Assist 7.5 to simplify distribution of audio content. This automates exchange of content over various transmission platforms including IP transport and DVB video transport.

Speech-to-text functionality integrated into Radio-Assist 7.5 helps with content analysis and retrieval. Audio content can be turned into text, which in turn can be incorporated as metadata. Also new: Multitrack XT with integrated VST standard, an editing tool for multitrack digital audio recording and editing.

And Radio-Assist 7.5 is now available bundled with Axia IP-Audio networking components that allow an audio workstation PC running Windows to send studio-grade audio to an Axia audio network from its network interface card, bypassing the need for PC sound cards.

Contact the company's office in New Jersey at (888) 207-2480 or www.netia.com.

The company has expanded its options for HD Radio and analog FM transmission. The V Series digital-ready FM transmitter line now include 10 models: the new V1, V3.5, V7.5 and V15 join the V5, V10, V20, V30 and V40, addressing power needs up to 40 kW. The company said the V15 is suitable for stations that are upgrading 10 kW TPO analog systems to HD Radio.



The company showed a Precision AM GPS Synchronization Unit, designed to reduce interference between AM stations operating on the same frequency, primarily during evening and nighttime operation; and it exhibited an IBOC Signal Splitter, which allows broadcasters to take advantage of the FCC ruling permitting nighttime IBOC AM operations. The splitter keeps costs down by enabling the use of one IBOC generator for two AM transmitters, "effectively creating split IBOC signals for daytime and nighttime transmission."

In personnel news, Gary Liebisch, shown, joined as regional sales manager for the eastern United States. He had been product manager for AM and FM radio transmission products for Harris and is a former chief engineer and DOE for several groups including Chancellor Media.

Contact the company in Maine at (207) 947-8200 or www.nautel.com.

**AAS Hopes to Build U.S. Presence**

French codec manufacturer AETA Audio Systems (AAS) is seeking to set up a distribution network in the United States to expand its presence.

AAS produces a line that centers on portable codecs, studio codecs and ENG mixers.

The company said it wants to find a U.S.-based firm that is not only already involved in foreign trade and imports but is also well known in the broadcast industry.

Other requirements would be a national presence across the United States, directly or via resellers, plus a technical team with good support skills, especially in IT, and the ability to handle the first level of maintenance.

AAS said it would not exclude companies that already have products of competitors in their portfolio and that it would consider offers to distribute either the entire AAS range or just specific elements.

The company also promoted its Mixy professional stereo and M/S portable analog/digital mixer.

Contact the company via its Web site at www.aeta-audio.com.

**Relio, Digiplexer V2 Expand Audemat-Aztec Line**

Audemat-Aztec introduced the Relio system for broadcast facility management and transmitter remote control.



A choice of I/O termination panels with screw-terminal connectors makes connection easy. It is packaged in a 1RU enclosure and provides 64 digital I/O and 24 analog inputs, four serial ports, two Ethernet ports and four USB

Sabre designs, manufactures and installs towers to meet your broadcast specifications. We offer everything from custom FM support sections to turnkey AM installations. Committed to customer service, we deliver quality products at competitive prices with the shortest lead times.

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ports. Relio systems are IP-enabled; a voice modem interface with DTMF capabilities is included for traditional remote notification and control capabilities.

ScriptEasy software allows users to drag and drop logic functions and I/O data to generate monitoring and control scripts.

Also new: The Digiplexer family of two-, four- and six-band FM/HD audio processors with stereo generators. All include embedded RDS encoder and audio backup that can trigger a playlist when detecting silence. They complement the Silver Audio Processing Line; the company now offers about 10 audio processors for various applications.

The company released software version 1.4 for the Goldeneagle HD Monitor. It is now capable of displaying the complete NRSC (5A) mask for AM and FM HD stations; also it can monitor compliance with this mask and alert technical personnel of out-of-tolerance conditions. Automatic monitoring of the digital/analog audio time alignment is provided, with alerts via e-mail, SMS, SNMP trap or voice call. The mod monitoring feature is improved, with peak weighting and filtering, and is capable of measuring modulation on 67 and 92 kHz subcarriers.

And it showed the Navigator Modulation Analyzer, a monitor based on a digital demodulator and other high-speed components; the supplier says it is among the most accurate units available.

Contact the company in Florida at (305) 249-3110 or [www.audemat-aztec.com](http://www.audemat-aztec.com).

## WinMedia Boosts Automation Range

French software developer WinMedia Group has released a new version of its WinRadio broadcast automation package.

Philippe Castell, WinMedia project manager, said a new database architecture offers new possibilities for ads and music scheduling.

In addition, the integration of Web services boosts WinRadio capabilities for remote voice tracking, remote flow control and remote sales. WinMedia has also introduced a new version of the mixer window, the on-air system and the graphical presentation.

WinMedia has also launched WinWeb, a media asset management tool. With a user-friendly and secured interface connected with the WinRadio suite, WinWeb is designed to optimize workflow management. It features a sales module, a producer module and a module with which to manage DJ schedules, organize and check games and stock of gifts.

The new WinWeb tool allows users to synchronize contacts, planning and tasks via a mobile phone, a computer or a connected PDA.

Contact the company via its North American distributor at (514) 984-4912 or [www.winradio.fr](http://www.winradio.fr).

## Heil Brings Fin and Flame to Vegas

Heil Sound introduced the first two models in its Deco Series of large-diaphragm dynamic microphones: the Fin and the Flame.

The Fin, shown, is a retro-looking chrome mic designed for live vocals. "Imagine the front end of a 1948 Pontiac with chrome slots and a fin, and you get the idea of what the new 'Fin' looks like."



said Bob Heil. "But that's where the similarity ends. The 'Fin' has the same dynamic element as the PR-20. It's cool looking and adds a wow factor to the stage presence with a backlit LED. Flip on your phantom power at the console and internal blue windscreen illuminates with a soft blue glow."

The Flame is a multi-purpose instrument mic with a "big band" look; for added visual effect, the mic has flames on its sides. Heil says the Flame was developed as a harmonica microphone. "Its diminutive size allows it to be used on a variety of instrument applications. It's really an excellent snare mic," he said.

Heil Sound also featured the Pink Pearl and White Pearl editions of its PR-20 large-diaphragm dynamic microphones. The company says these are the first two models in its Spotlight Series.

Heil says the Spotlight Series is a new look for the PR-20, and that the mic's wide response

outperforms old industry technology and can withstand high SPL. The company also touts its upper mid range.

Contact Heil Sound in Illinois at (618) 257-3000 or [www.heilsound.com](http://www.heilsound.com).

## Siel Promotes EXC30 Transmitter

The Siel EXC30 enhances the capabilities of its EXC25 transmitter.

The EXC30 is a 30 W direct-synthesis, frequency-agile FM transmitter that provides the basic features of the EXC25 and also incorporates a more powerful controller, which improves the local and remote control capability.

Control is possible either via the front-panel interface or a remotely connected PC.

There is a separate auxiliary SCA/RDS channel input, balanced/unbalanced audio and MPX input, optional AES/EBU digital audio input and multiplex modulation LF output. Programming is in 10- or 100-kHz steps.

The EXC30 also offers real-time clock and date with back-up battery, and password protection of critical data and programming.

Options available include a high-quality stereo encoder board, an internal GSM modem, USB, 10-baseT and RS-485 ports. These ports enable the setting of internal parameters such as power, input sensitivity and frequency.

It is also possible to verify system status elements such as modulation, direct and reflected power on the antenna, temperature and alarms.

Additionally, the EXC30 has a low internal part count and no moving parts, ensuring reliable and maintenance-free operation.

Contact the company in Italy via e-mail to [siel@siel.com](mailto:siel@siel.com) or [www.siel.com](http://www.siel.com).

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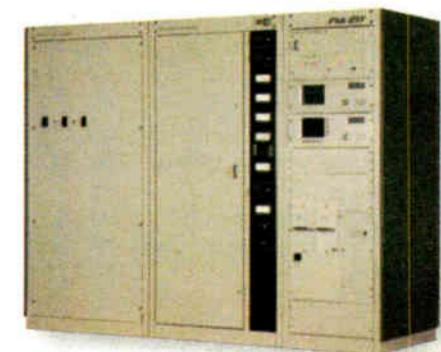
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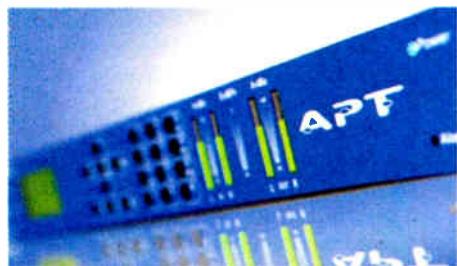


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## APT Goes IP With WorldCast Eclipse

APT's WorldCast Eclipse IP codec was introduced in Vegas. It's a multi-interface, multi-algorithm audio codec described as a sophisticated platform for broadcasters interested in migration to IP.



The codec offers Ethernet, X.21/V.35 and ISDN ports providing access to networks such as IP, leased line, satellite, microwave and dial-up. Users can choose from a selection of coding algorithms such as Standard and Enhanced apt-X, MPEG 1/2 Layer II/III, MPEG 4 AAC, G.711 and G.722.

The company introduced its new coding technology apt-X Live to U.S. broadcasters. APT says this delivers compression of up to 8:1 while retaining the acoustics and low delay performance of other APT products; apt-X Live is available to license and will be incorporated into APT's codec lineup later this year.

And APT said it is adding extensive IP audio capabilities on the WorldNet Oslo, its flagship product for HD Radio STL applications. NAB brought the introduction of a dual-port IP card and ISDN transport module which, with the existing T1/E1 transport option, allow a broadcaster to tailor the configuration for both the main and back-up links of their choice.

Contact the company at (800) 955-APTX or [www.aptx.com](http://www.aptx.com).

## Digigram Demos First Network Audio OS

Digigram demonstrated Visiblu, an audio processing and networking middleware for building digital radio infrastructures.

The framework combines audio processing and IP audio encoding and networking. The



company says it unifies the EtherSound low-latency Ethernet protocol with RTP/UDP IP audio streams in an engine that runs under both Windows and Linux.

Visiblu allows audio solution providers to develop IT-based audio and data routing, transport, encoding and processing systems across local and wide areas. It is open to Digigram sound cards as well as DirectSound- or ALSA-compatible hardware.

Remote management of distributed audio processing resources and IP audio streams is possible using a graph-style API. Digigram says Visiblu's interoperability principles allow broadcasters to combine vendor solutions into a coherent system, providing integrated control of the system from a single point.

Visiblu includes software-based multicast and unicast IP stream creation, stream management and stream mixing. Applications include program syndication and distribution, IP intercom, studio-to-transmitter links, remote contribution

and automated IP audio feed recording.

Contact Digigram in Virginia at (703) 875-9100 or [www.digigram.com](http://www.digigram.com).

## Bid4Spots.com Notes \$3 Million in Spot Buys

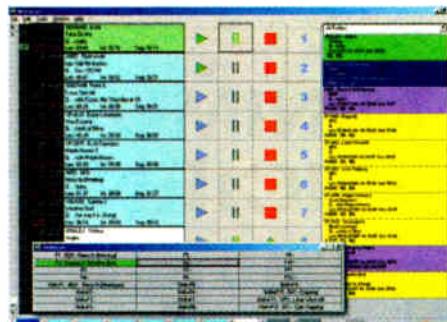
Bid4Spots.com announced it has signed up more than 2,300 stations for its reverse auctions of last-minute radio advertising inventory.

The company holds a weekly online auction on Thursday mornings to match advertisers with stations with excess inventory. The company says its auctions have placed more than \$3 million in spot buys for time that would otherwise have gone unsold.

Contact Bid4Spots.com in California at (866) 326-7788 or [www.bid4spots.com](http://www.bid4spots.com).

## BSI WaveCart Powers Up

Broadcast Software International has unveiled new versions of its WaveCart and Stinger live-assist automation tools.



The new WaveCart 4.0 cart-machine replacement, shown, now offers 24 hot keys and up to 10 on-screen players, each of which can be sent to a separate sound card output, while Stinger makes up to 288 audio cuts instantly available on screen.

"It's been a phenomenal show for us," said Sales Manager Marie Summers late in the convention. She said BSI ran out of the hundreds of demo CDs it had prepared, forcing her to make a last-minute run to an office-supply store to buy blank CDs to burn.

Contact BSI in Oregon at (541) 338-8588 or [www.bsiusa.com](http://www.bsiusa.com).

## Burli Goes to V2.02

Burli previewed the new version 2.02 of its newsroom software.

Ian Gunn, director of product development, says the latest version of the software includes improved redundancy features, with greater capacity for off-site mirrored backup and cascading multi-server redundancy on-site. The new version also includes complete standards-compliant NewsML export, expanded integration with OMT/iMediaTouch automation systems, and greater support for podcasting.

Contact Burli in British Columbia at (604) 684-3140 or [www.burli.com](http://www.burli.com).

## PSI Displays Brass, Copper HD Elements

Propagation Systems Inc. exhibited its Power-Tiller and Slant-V HD antenna elements for FM, constructed of brass and copper.

The PSI Power-Tiller is an omni-directional, circularly polarized FM broadcast antenna. Features include copper- and corrosion-resistant brass construction for conductivity and longevity, and VSWR bandwidth.

It is available in high power for input power up to 60 kW and medium power for input power up to 15 kW. Elements are stacked in arrays of up to 12 bays for increased gain and are end-fed from a support boom. For arrays requiring beam

tilt and/or null fill, a center feed system is required. The entire antenna system, including the feed, is pressurized. Each antenna is supplied with galvanized mounting brackets for round leg mounting on uniform cross-section towers.



sight. A camera in Times Square is shown.

In addition to radio studio-transmitter links or transmitter-studio links, the system can be used for high-speed VPN connections, backhaul of satellite feeds, transmitter remote control and data connections to off-premise backup sites.

The company also hired Judy Mueller, formerly of Modulation Sciences, as director of marketing.

Contact DSi in New Jersey at (732) 563-1144 or [www.dsirf.com](http://www.dsirf.com).

## Pristine Demos Black Box, Spotlights Informant

Pristine Systems/Summit Traffic showed its CDS32 automation system; it says a unique feature called Auto-Promo intuitively selects and builds a promo for upcoming songs in the next music set using pre-recorded elements and music hooks.

President George Thomas demonstrated the Black Box audio logger, which simultaneously records 16 stereo channels. Black Box also features a Web-based playback interface, and a virtual mic skimmer to allow talent or management to listen to a "telescoped" aircheck by jumping to points in the file where the microphone was turned on, without having to manually edit the file.

The company displayed the Informant audio silence monitor with e-alerts, which monitors up to four of your stations for dead air and quality control, or other market stations for competitive purposes. When the length of silence on a channel exceeds the user-determined duration, an e-mail/SMS text message is sent to the corresponding e-mail address from that channel's time schedule.

Contact Pristine Systems in California at (800) 795-7234 or [www.pristinesys.com](http://www.pristinesys.com).

## Dalet Radio System Is Improved

Dalet Digital Media Systems showed the third generation of its Dalet Radio System.

The DaletPlus Radio Suite offers more scalability and more flexibility than previous versions of the system, says Nicolas Hans, director of marketing for the firm.

Hans says the Dalet 5.1 digital production and playout system offers a new music-scheduling engine, including the ability to have a single scheduling platform for multiple stations and to manage media associated with playlists.

The DaletPlus Radio Suite also offers advanced newsroom scripting, prompting and archiving functions, as well as improved PAD support for HD Radio digital platforms.

Contact Dalet in New York at (212) 269-6700 or [www.dalet.com](http://www.dalet.com).

## RF~IPMax Is IP Link

DSI RF Systems Inc. introduced its RF~IPMax bi-directional IP-based transmission system for video, audio and data.



Already in use on several paths in RF-crowded New York City, including between the Empire State Building and lower Manhattan, RF~IPMax uses 5.8 GHz spread-spectrum transmission to provide up to 49 Mbps of Ethernet throughput along paths up to 50 miles line-of-

## Efron: Speedy Setup a Specialty

Efron Computerized Studios LLC showed its turnkey studio setup service.

The company builds complete studios, including furniture, to customers' specifications



at its Las Vegas facility, then tests, disassembles, ships and reassembles them on site. Efron provides assembly services and training at the customer's location.

The company says it can deliver a pre-built studio at 8 a.m. and have the facility on the air at noon the same day, at a cost President Edward Efron describes as "very competitive" with traditional on-site construction.

Shown, Richard Majestic talks to Robert Kelly of MCS in Guam.

Contact Efron Computerized Studios in Nevada at (702) 938-0475 or [www.efronstudios.com](http://www.efronstudios.com).



Visit [radioworld.com](http://radioworld.com) for CoolCast video demos of all the 2007 "Cool Stuff" Award-winning products.



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## ENCO Gives Voice to PADapult

ENCO Systems Inc. unveiled its PADapult VS with Voice Synthesis, an upgrade to its PADapult data delivery program that includes a text-to-speech module.

The addition of voice synthesis allows automated services such as HD Radio multicast channels to provide voice announcements of song and artist information (derived from PAD data), as well as traffic and weather announcements and other constantly-updated information. President Eugene Novacek calls the system "a compelling approach for cost-efficient utilization of the new multicast channels."

PADapult VS is available both as an add-on module to ENCO's DAD automation system or as a standalone system.

ENCO also announced support for Google's AdSense for Audio system in its 5.3a and later versions of DAD. ENCO also is now providing Wheatstone AoIP drivers within DAD, allowing Wheatstone users to connect workstations directly to their AoIP networks without the need for separate sound cards.

Contact ENCO in Michigan at (248) 827-4440 or [www.enco.com](http://www.enco.com).

## Comet Shows Capacitors With 'Integrated Drive'

Comet North America offers a range of capacitors for broadcast applications, and displayed its line of fixed and variable vacuum capacitors for high-power broadcast transmitters

and tuning/phasing. Capacitors with an "integrated drive" were featured, which allows rapid re-tuning from C minimum to C maximum.

Additionally, Comet showed off its line of "mini caps," popular replacements of obsolete glass-type capacitors.

Contact the company in Connecticut at (203) 969-2161 or [www.cometna.com](http://www.cometna.com).



## ERI Shows Control

ERI showed its ACS-100 FM antenna control system and VPS-100 FM VSWR control system, built in partnership with Broadcast Devices Inc. and designed primarily for use in multi-station combiner systems.

The ACS-100 can control one to four antenna switches automatically and simultaneously, offering a direct interface to any ERI four-port switch and optional interfaces to switches from other manufacturers.

The VPS-100 offers what BDI president Bob Tarsio calls "belt and suspenders" protection against possible VSWR problems. It includes direct RF sensor inputs for fail-safe switching, ensuring that switching cannot take place while RF is present.

Both products are part of a family of ERI and BDI products that can be interconnected by a common bus structure.

ERI also introduced a new 4-1/16-inch connector for Andrew 4-inch air Heliax transmission line. The new connector is available in both

gas-pass and gas-barrier versions, as well as in male and female configurations.

And the company debuted its new Ultra guy anchor rod, which features a port to allow non-destructive ultrasonic testing of guy anchor integrity.

President/CEO Tom Silliman says the company now offers turnkey manufacturing, installation and field checkout of towers and transmission systems.

Contact ERI in Indiana at (812) 925-6000 or [www.eriinc.com](http://www.eriinc.com).

## DaySequerra Offers M2.2R, M4.2R

DaySequerra exhibited its new M2.2R model, shown. This expands on the M2.0's capabilities with six programmable dry, floating alarm relays, RBDS and RF multipath displays, FM analog component monitoring including SCA and pilot injection levels and AM noise and a



multiplex output for external SCA decoders. Also new are an Ethernet interface for streaming PAD data or remote control and DaySequerra's Remote Dashboard software program, which lets broadcasters remotely tune the unit, alarm key signal parameters and log their data.

The M2.2R features full-time digital audio output, even when tuned to an analog station.

The Performance Loss Module Option is rolled into the unit. It employs heuristic algorithms that the company says cannot be fooled by pink noise or tones; it will generate alarms when real program silence is detected in HD Radio or analog broadcasts.

The company also showed the M4.2R model, which similarly adds features to its M4.0. DaySequerra calls this the only HD Radio Tuner with a full complement of built-in alarm functions, including the ability to alarm data and stream PAD data from the Ethernet port.

DaySequerra won an RW "Cool Stuff" Award for its M3 (see RW, June 6). And it announced a Factory Upgrade Program that allows M2 and M4 owners to upgrade to these new features and capability sets.

Contact the company in New Jersey at (856) 719-9900 or [www.daysequerra.com](http://www.daysequerra.com).

## Google Gets Beachfront Property

Google expanded its footprint in the radio industry with the announcement of a deal that will give it access to ad inventory on more than 675 radio stations owned by Clear Channel, allowing Google advertising customers to buy spot time with the nation's largest radio group.

"Two of the market leaders in innovation coming together, it makes an exciting partnership," said Drew Hilles, national sales director for Google Audio, calling the Clear Channel inventory "beachfront property."

Hilles said response from broadcasters at the crowded Google booth during NAB was positive, noting that Google hadn't always been vocal about its intentions when the company began entering the radio arena with its 2006 purchase of dMarc.

Google also announced increased radio automation support for its AdSense for Audio system. In addition to the Google/dMarc-owned SS32 and Maestro systems, AdSense is now available through BE's AudioVault2 and AV100 systems, and will soon be available to users of ENCO and LAN International's Viero systems, the latter in conjunction with RCS' NexGen automation.

Contact Google in California by visiting [www.google.com/adsense/audio](http://www.google.com/adsense/audio).

## VocalBooth.com Celebrates 10 Years With a Diamond

VocalBooth.com Inc. noted 10 years of providing modular, portable sound enclosures for the recording and broadcast industries.



New for 2007 is the 14 Carat Diamond series in single- and double-wall design. Named for its shape, the Diamond series offers five non-parallel walls that help reduce standing waves. The shape also attractively uses the corner space of a studio or office. Three other standard Diamond sizes are available as well as larger custom rooms called Super Diamonds. The new 14 Carat Diamond has the approximate volume of a seven-by-seven-foot room.

Systems are modular to allow flexible configuration. Standard and custom sizes are offered up to 16 feet square. VocalBooth.com showcased a four-by-six-foot Gold Series at the Fraunhofer booth; Jay Riker is shown.

Contact the company in Oregon at (541) 330-6045 or [www.vocalbooth.com](http://www.vocalbooth.com).

## Centaur II: Multichannel Codec From Mayah

Mayah showed its new Centaur II multichannel audio gateway codec.

The Centaur II boasts compatibility with a range of coding algorithms, including MPEG, AES Transparent, aacPlus, G.722 and APT. It also offers 5.1/7.1 multichannel capability, a function Mayah says is unique to its codec. The Centaur II can connect over ISDN or Ethernet, and offers the option of multiple power supplies, allowing for a DC backup to the primary AC supply.

Contact the company in New Jersey at (856) 719-9900 or [www.daysequerra.com](http://www.daysequerra.com).

## Omnirax Can Do DuPont Corian

Omnirax is now offering solid countertops made from DuPont Corian as part of its line of custom broadcast furniture.

"Corian allows us to present a much higher-end look to the furniture," said CEO Alan Jewett.

The company cites satisfied users of its products including Dave Williams of Clear Channel San Francisco, Conrad Trautman of Westwood One and John Buckingham of Entravision.

Contact Omnidax in California at (800) 332-3393 or [www.omnidax.com](http://www.omnidax.com).

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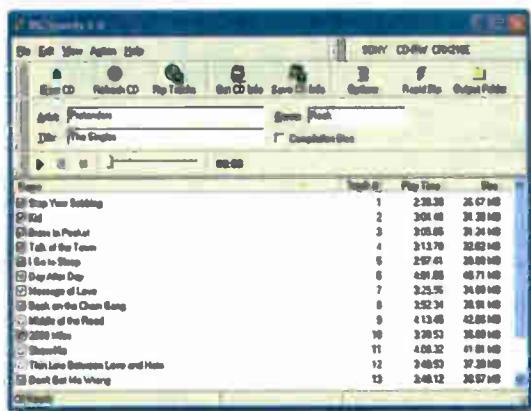
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**SUMMER PRODUCT PREVIEW****OMT Releases iMediaTouch v2.6.1**

OMT Inc. released iMediaTouch v2.6.1 at NAB.

This newest version of iMediaTouch Automation Software adds features like compact full log window, full log drag and drop, main log drag and drop, multiple display support and other additions.



The company also showed a pre-release of iMediaTouch i3, which contains features such as an optional cart-style On-Air display, compact audio library and advanced drag-and-drop functionality.

And it premiered its new media and NTR service features for iMediaTouch.

Contact the company in Manitoba at (888) 665-0501 or [www.imediatouch.com](http://www.imediatouch.com).

**Matchjack Is Planned At Radio Systems**

Radio Systems announced the upcoming release of new analog-digital and digital-analog converters as part of its Matchjack line.

The new MJ-AD and MJ-DA converters include analog inputs and outputs, respectively, as well as RJ-45 connections for Radio Systems' StudioHub+ wiring system.

The MJ-AD and MJ-DA converters, slated to ship in August, will be housed in compact (6 x 3 x 1 inches) enclosures and can be powered from StudioHub+ DC-Link or from an external power supply.

"People have been asking us for a lot more digital interface products," said Radio Systems Executive Vice President Garrett Conover. He says Radio Systems will also be introducing a digital distribution amplifier this year, as well as a new 4x1 distribution amplifier at the end of the summer.

Contact Radio Systems in New Jersey at (856) 467-8000 or [www.radiosystems.com](http://www.radiosystems.com).

**RCS + Prophet = Truly Global'**

RCS Sound Software attended its first NAB show since its merger with Prophet Systems, offering RCS products such as Selector and former Prophet products such as NexGen Digital at a single booth. Clear Channel owns both firms.

"We now have a truly global company, not just for music scheduling but for automation," said RCS President Philippe Generali.

NexGen Digital is the latest incarnation of NexGen automation software, now featuring integration with RCS' GSelector music database, an updated on-screen control room display and improved redundancy to allow any machine on a network to take over in case of a failure.

GSelector now boasts a multi-station design allowing for creation of new HD Radio multicast channels by cloning existing terrestrial stations' scheduling.

RCS showed its new RCSnews newsroom software, a standalone system that includes integrated media management and audio editing, a customizable prompter and scalability from a single reporter to a full newsroom. And it exhibited PrizeWatch, to help stations keep track of

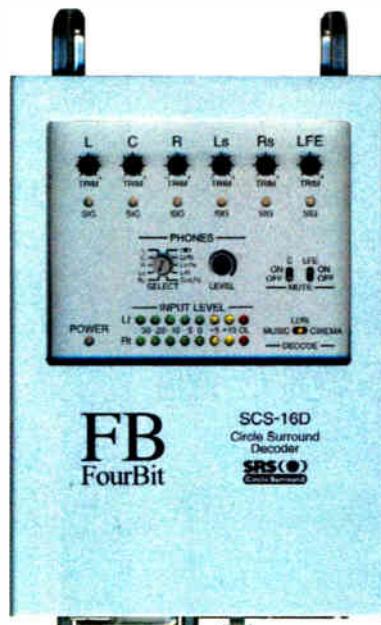
contest details such as whether a current winner has won before, prize inventory available and contact info for people who won.

Contact RCS in New York at (866) 432-7727 or [www.rcsworks.com](http://www.rcsworks.com).

**SRS Plans Circle Sound Decoder**

SRS Labs Inc. followed up last year's NAB introduction of a portable Circle Surround surround-sound encoder with plans to introduce a portable Circle Sound decoder.

Mike Canevaro, senior director of business development, says the new decoder grew out of



demands from the Japanese market for an easy way to monitor surround mixes while on location. The new decoder will work with any surround microphone, and will allow users to monitor any individual channel of the mix, as well as to monitor 5.1-channel surround sound through headphones.

Contact SRS Labs in California at (949) 442-1070 or [www.srlabs.com](http://www.srlabs.com).

**Belar Debuts WizWin 3.0**

Belar introduced version 3 of its WizWin software.

This version incorporates an HD Radio window that can be displayed on screen simultaneously with analog information. Front-panel digital information such as bit error rates, time diversity, PAD data and spectrum analysis is available on screen, in addition to analog modulation data. Drop-down menus and full control functions are possible with a click of the mouse. WizWin is compatible with Belar Wizard AM and FM monitor products. Interface is via RS-232 and RJ-45 Ethernet and may be LAN, WAN or VPN networked to permit multiple users to view data and control functions. Windows functions may be applied to any user-selected display.

Contact the company in Pennsylvania at (610) 687-5550 or [www.belar.com](http://www.belar.com).

**Tieline 'Takes Cell Phone and USB Connection Out of Equation'**

Tieline Technology introduced two 3G voice-enabled software modules embedded into its Commander codec. It said 3G wireless broadband cellular broadcasts are now possible without the use of a cell phone.

New global 3G networks are enabling

broadcasters to deliver wireless stereo FM-quality remote broadcasts from the field back to the studio at bit rates comparable with ISDN performance," it stated. "Instead of having to order



an ISDN or a POTS line from a telco, which often takes days to organize, broadcasters can dial up the studio from wherever they can get a normal broadband-enabled cell phone signal."

The optional embedded modules come in two choices: one offering connectivity to all three HSDPA/UMTS/GSM frequency bands and the other offering connection via CDMA EV-DO Revision A networks as well as the CDMA EV-DO Release 0 and IX networks.

"We are making it even easier for broadcasters to achieve a broadband wireless IP connection because we are taking the cell phone and the USB connection out of the equation," said Tieline America General Manager Kevin Webb. The company said it is the first to offer six network options in one audio codec including wired and wireless IP, 3G, POTS, ISDN, GSM and X.21.

The company also demo'd codecs compliant with new audio-over-IP interoperability standards issued by the European Broadcast Union.

Contact the company in Indiana at (317) 845-8000 or [www.tieline.com](http://www.tieline.com).

**Burk Has SL-1 Serial LAN Extender**

Burk Technology promoted the SL-1 Serial LAN Extender, which connects two LANs via an existing serial connection, allowing remote IP access without a separate ISP or VPN.

It is suitable for use at remote sites where traditional IP connectivity is limited or not possible. The SL-1 enables wide-scale deployment of IP-based technologies, including the Burk Technology ARC Plus broadcast facility remote control system. It also brings Web-based setup and diagnostic applications within reach of studio staff, Burk stated. "Personnel at remote sites benefit by gaining access to otherwise unavailable network resources, including e-mail, PDF manuals, wiring documentation, etc."

The manufacturer also showed the WatchBand receiver and AFD-1 ARC and Flame Detector, both "Cool Stuff" winners and described in the June 6 issue.

Contact the company in Massachusetts at (800) 255-8090 or [www.burk.com](http://www.burk.com).

**Armstrong Introduces Analog+HD Translator, Upgraded Products**

Armstrong introduced the TRX-HD Digital FM translator series.

Three models are capable of analog power levels ranging from 30 to 300 watts and digital power levels from 10 to 100 watts. The TRX-HD models are front-panel transmit/receive frequency agile. They are DSP-based, with LCD front-panel display of parameters. Features include touch-screen interface, field programmable FSK ID, modular design, and remote control and status indicators. The TRX-HD models include VSWR protection and Automatic Power Control. Expect shipping in the fourth quarter.

Armstrong also announced the FM500B low-power FM amplifier. Capable of 650 watts output, the Series "B" incorporates broadband design requiring no tuning, VSWR protection, APC, microprocessor control, front-panel LCD



parameter display and low-pass filter. Required RF drive is 20 watts. The FM1000B is capable of 1,250 watts output. The upgraded Series "B" maintains the same list price as its predecessors.

And Armstrong has upgraded the RF output capability of the FM2000 to 2500 watts.

Armstrong's Ernie Belanger, left, is shown with John Price of Entercom.

Contact the company in New York at (315) 673-1269 or [www.armstrongtx.com](http://www.armstrongtx.com).

**Audio Precision Unveils 16-Channel Audio Analyzer**

Audio Precision displayed the APx586 16-channel audio analyzer.

Featuring hardware and software upgrades to the eight-channel APx585, the APx586 can perform a variety of automated tests on amplifiers and playback-only devices such as CD, DVD and MP3 players. Included are a reference test CD and DVD. Advanced features include automatic determination of optimum reference level for amplifiers, Dolby/DTS testing, FFT spectrum view up to 1 million points, real-time oscilloscope view with THD+N residuals and continuously updated monitoring while other functions are performed.

With the introduction of the APx586 comes APx500 version 2.0 software. Main enhancements include automatic generator level, regulated frequency sweeps, maximum power output measurements with optional burst stimulus and time domain display of distortion residuals.

Contact the company in Oregon at (800) 231-7350 or [www.ap.com](http://www.ap.com).

**Patriot Antenna Systems Offers Transportable Satellite Dishes**

Patriot offers a new 4.8-meter trailer mounted transmit/receive satellite dish. Suitable for emergency or remote broadcast operations, the system is capable of operating in the C or Ku bands. It features a dual reflector for high gain, motorized dual axis antenna system, Cassegrain feed system for both C and Ku bands and fold-down reflector system. The dish can be stowed or deployed in less than one hour.

Also new is a 2.4-meter flyaway transmit/receive C or Ku band two degree compliant dish. Three options allow the user a selection of deployment modes. The first allows manual adjustment of azimuth and elevation using hand cranks. Estimated setup time is 20 minutes. The second option includes a motorized azimuth/elevation mount for jog control and a motorized feed assembly for polarization adjustments. Two- or three-axis motorization is possible.

The third option offers fluxgate compass and GPS tracking for automatic satellite location without manual adjustment. The assembly can be transported in six cases, making it ideal for emergency or mobile operations.

Contact the company in Michigan at (800) 470-3510 or [www.sepatriot.com](http://www.sepatriot.com).

# End-to-End Solutions From SCMS

## Moseley SL9003Q Studio Transmitter Link



Get your **STL** Solution from  
the Dealer That Knows Radio.



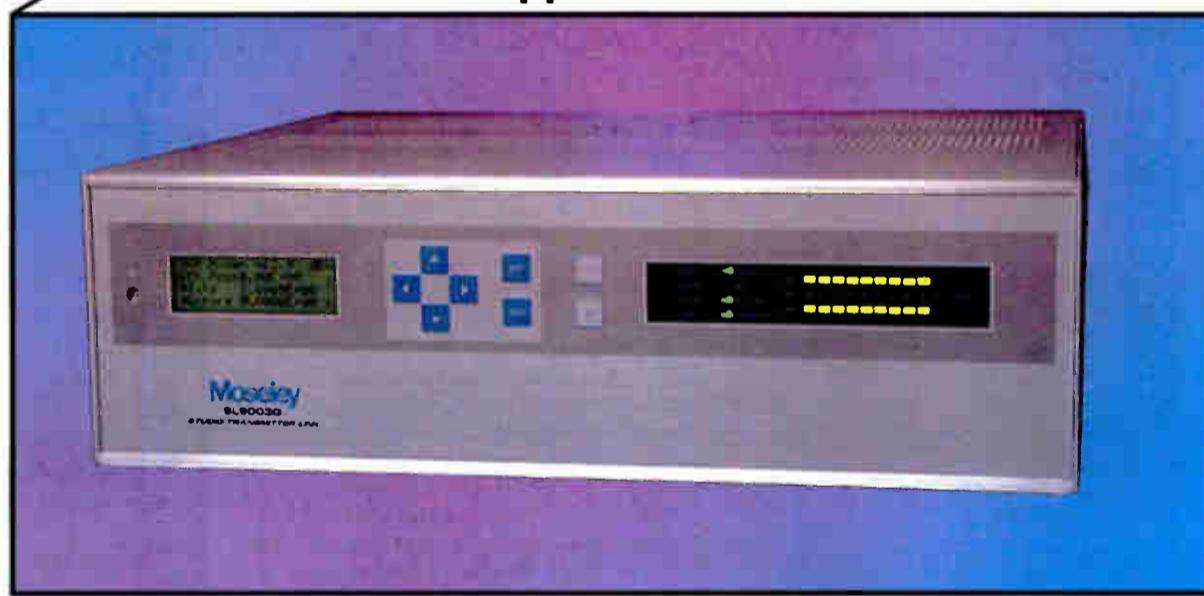
### The Starlink is **SMOKING HOT!**

Whether you are faced with a studio move or IBOC conversion, make the right STL choice for today and tomorrow.

Moseley Starlink SL9003Q-2SLAN and new 4SLAN is the first STL to provide AES digital audio and Ethernet over the traditional 950 MHz STL band.

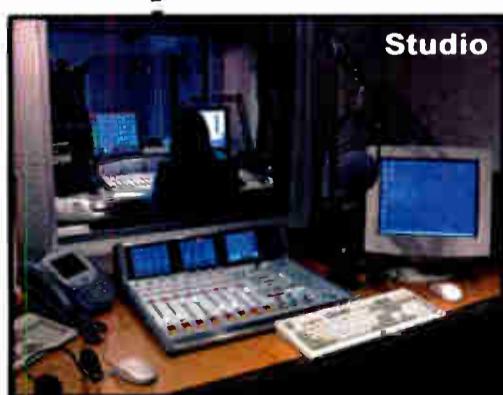
For T1 lines and license-free links, the Moseley Starlink SL9003T1 gives you bi-directional digital audio, Ethernet LAN extension, remote control, and telephone.

**Your best value for the future is the right **STL** choice today**  
**Moseley Starlink is available from the most reputable supplier in radio broadcast – SCMS**



**Contact SCMS**  
at any of its offices  
to discuss your needs.

**1-800-438-6040**  
**Bob, Ernie, Matt or Mike**  
**HQ in Pineville, NC**



Mid-South: 1-877-391-2650 Bob Mayben  
Central: 1-731-695-1714 Bernie O'Brien  
West Coast: 1-866-673-9267 Doug Tharp  
Mid-West: 1-513-899-3036 Mary Schnelle  
South-Atlantic: 1-770-632-1295 Art White  
North-East: 1-315-623-7655 Jim Peck  
South-West: 1-210-775-2725 John Lackness  
Pro Audio: 1-877-640-8205 Ric Goldstein  
Latin America: 1-760-650-1427 Lily Massari



**SUMMER PRODUCT PREVIEW****PTEK Introduces  
1 kW FM Power  
Amplifier**

PTEK introduced a 1,000-watt solid-state FM power amplifier.

Key components include two 700-watt hot pluggable RF modules and eight pluggable redundant power supply modules, accessible from a dropdown front panel for easy access. Reliability is increased and component count decreases are possible by constructing the RF module in multi-layer printed circuit boards with etched matching networks and 4:1 transformers, eliminating the need for coaxial cable sections. Surface-mount technology permits a small physical footprint for more efficient cooling and decreased thermal stress.

The 1,000-watt amplifier serves as a building block for PTEK's 1000-, 2000- and 3000-watt FM transmitters. All transmitters are single-phase 220 VAC. PTEK excitors now feature FSK IDs, programmable by an RS-232 interface. The FM500 has been upgraded to a front-panel digital display, showing parameters, status, warning and other information.

Contact the company in California at (888) 889-2958 or [www.ptekpower.com](http://www.ptekpower.com).

**Elenos Touts  
High-Efficiency Design**

The ETG 3500 is a lightweight 3.5 kW FM stereo transmitter occupying four rack units.

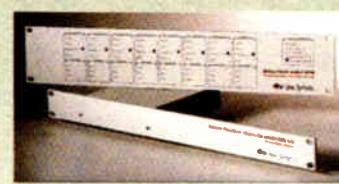
The compact ETG 3500 comprises AES-EBU digital input, a high-quality stereo exciter and a 3.5 kW amplifier.



It also features Elenos-patented design with polygonal coupling of 12 power modules in a single jump and ICEFET technology. A significant reduction in heat dissipation increases overall efficiency.

**Control Solutions****Model RFC-1/B Remote Facilities Controller**

- control transmitter from any telephone
- 8-64 channels of telemetry and control
- programmable control by date and time
- optional printer and modem adapters
- programmable telemetry alarms
- integrated rack panel

**Model RAK-1 Intelligent Rack Adapter**

- parallel printer interface
- internal modem for data transfer
- front panel status indicators
- battery backed power supply
- rack mountable chassis
- accessory package for RFC-1/B



**Sine Systems, Inc.**

615.228.3500  
[www.sinesystems.com](http://www.sinesystems.com)

Exciter performance guarantees 90 dB S/N and 0.01 total harmonic distortion (THD). The AES-EBU digital input and built-in stereo generator enable more than 65 dB of stereo separation.

The use of a GSM telephone makes it possible to control the operating parameters of the ETG 3500 remotely. In the event of alarms, the system automatically sends SMS messages to several mobile phones. SMS-controlled I/O logic commands are also available for connections to changeover equipment.

A combination of 12 Philips MOSFET BLF 278s, redundant 2 kW PFC switching power supplies, low-pass filters and microprocessor control helps assure operational reliability.

Contact the company in Italy via e-mail to [info@elenos.com](mailto:info@elenos.com) or [www.elenos.com](http://www.elenos.com).

**CPI/Eimac Unveils  
Power Tetrode Tube  
For IBOC Applications**

The 4CX25,000C from CPI/Eimac is a radial beam power tetrode tube suited for FM IBOC operation.

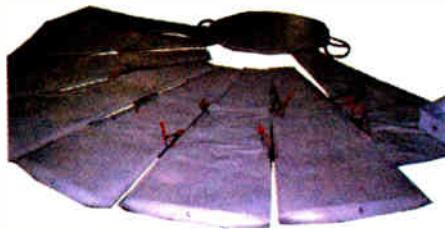
Linearity and heat dissipation are two important specifications in combined analog and digital component amplification. The 4CX25,000C mechanical structure results in high RF operating efficiency and cooling, the company says.

The anode is rated for 25 kilowatts of dissipation and is rated for full operation up to 110 MHz. Typical output power is 35 kilowatts. The 4CX25,000C may be grid or cathode (grounded grid) driven.

Contact the company in California at (800) 414-8823 or [www.cpii.com](http://www.cpii.com).

**Dawncor Protects  
Against Snow**

Dawncor introduced a satellite dish heating system to prevent snow and ice accumulation.



The system consists of custom fabricated electrically heated panels that attach to the rear of an existing dish. The rear-mounting method eliminates the need for dish realignment and causes no signal attenuation.

Included are temperature and moisture sensors allowing the system to activate automatically when snow and ice conditions are favorable. This is advantageous for unattended sites. The user specifies dish dimensions and AC power voltages. Installation is simple due to the semi-flexible panel construction.

Contact the company in Michigan at (248) 391-9200 or [www.dawncor.com](http://www.dawncor.com).

**Flash Technology  
Adds Split System**

Flash Technology debuted the FTB 204X Extended Separation Enclosure High-Intensity Strobe Lighting System, shown. The FTB 204X allows the flash head and the power converter to be separated by up to 700 feet.



The advantage is the ability to maintain the electronics away from antennas and the FCC-required RF power reduction or shutdown during maintenance. Safety is enhanced and component life is extended by distancing 90 percent of the electronics, including capacitors, away from the ozone environment of the strobe flasher. The FTB 204X is FAA-ETL certified.

Also new is the FTC 121 Controller. The FTC 121 allows in-depth status programming and diagnostics of the company's high-intensity strobe systems. Using dial tone, the built-in POTS modem and Eagle software for remote access or the local display panel, the FTC 121 displays real-time status and location of each light in the system. Diagnostic display of each light's internal temperature, marker, bank, line and trigger voltages, mode energy, operating marker bulbs and current firmware version are standard.

Another new product is the LED L864 Beacon Retrofit. Designed to replace the common 1,240-watt incandescent beacon, the L864 can adapt to most beacon enclosures by removing the upper glass and using the LED L864 Beacon Retrofit Adapter. Benefits are power savings, from the transition of incandescent (1240 W) to LED technology (48W) per beacon, and no annual relamping. The L864 is FAA-compliant and requires no previous FAA authorization.

Contact the company in Tennessee at (615) 503-2000 or visit [www.flashtech.com](http://www.flashtech.com).

**Dielectric Expands  
M2M Offering**

Dielectric Communications expanded upon its M2M (Machine-To-Machine) technology by offering facility monitoring services with the ArgusON platform.

ArgusON monitors, collects, analyzes and delivers information to key personnel. It also allows users to access, monitor and manage their equipment remotely. The system delivers critical information on tower strobe lighting status, generator fuel levels, turning equipment and lights on or off, security gate monitoring and other tasks.

Contact the company in Tennessee at (866) 459-4102 or [www.arguson.com](http://www.arguson.com).

**Moseley Upgrades  
Starlink**

Moseley announced the upgrade of Starlink STL to accommodate two stereo pairs plus a UDP stream for HD Radio.

Starlink is a multi-channel audio and data RF digital STL. The new SL9003-4SLAN configuration offers two 32 kHz stereo pairs with RS-232



channels, plus 384 kbps of simplex Ethernet data. Four other common configurations are available as are custom configurations. Starlink employs AES/EBU inputs and outputs with linear uncompressed audio connectivity.

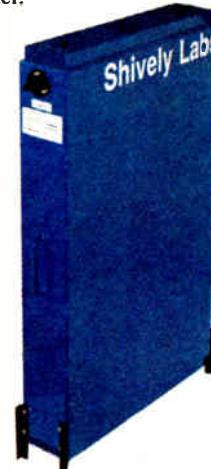
Also new at Moseley is the Event HD 5800 carrier class T1/E1/IP Ethernet radio link, shown. Paired with the Starlink SL9003T1 it creates a high-capacity bi-directional STL/TSL.

The needs of multi-station clusters are met with bi-directional LAN and phone extension, remote control and backhaul audio for downlink or RPU. The Event HD 5800 consists of a software-defined Indoor Unit and Outdoor Unit. The system is spectrum- and data rate-scalable. It operates in the unlicensed ISM 5.8 GHz or U-NII 5.3 GHz bands. The Event HD 5800 has the capacity of up to 16 T1/E1s or 100 MBps Ethernet and a range over 20 miles.

Contact the company in California at (805) 968-9621 or [www.moseleysb.com](http://www.moseleysb.com).

**Shively Debuts Filter,  
Coaxial Switch,  
Combiner**

Shively debuted the 2604 series interdigital bandpass filter, shown. Borrowing on the high-power 2606 model, the convection-cooled 2604-3A can handle 2.5 kW maximum power. The forced air-cooled 2604-3B can handle 5 kW. Each features a compact physical footprint, 7/8-inch EIA flange connectors and typical -0.6 dB insertion loss.



Also new at Shively are two compact 1-5/8-inch four-port motorized coaxial switches intended for FM/VHF. The 158NF-04MP has non-flanged male connectors, the 158F-04MP has flanged male connectors. Designed to operate in any physical mounting position, the switches have manual override and visual position indicators. Power handling capability is 15 kW average with typical insertion loss of -0.01 dB.

Shively also introduced the 9830NF combining hybrid, designed to combine two unequal power transmitters. The 9830NF is intended for operations where less than double transmitter power output is needed to achieve FCC licensed ERP.

Contact the company in Maine at (207) 647-3327 or [www.shively.com](http://www.shively.com).



Visit [radioworld.com](http://radioworld.com) for CoolCast video demos of all the 2007 "Cool Stuff" Award-winning products.



Millenium RS-18D Console

CT-2002 Large Wall Clock

StudioHub+ 44 Position Patch Panel

## CONTROL.

Digital or Analog — Millenium broadcast consoles provide the best mix of features and value available. With STANDARD mix-minus, remote control, talk-back, clocks and the best warranty in the industry — Radio Systems' consoles are in control at thousands of small and large market stations.

## TIME

Only Radio Systems' clocks and timers offer total flexibility with Time-of-Day, Up-Timer, Down-Timer, Master and Slave operation built into every unit. For accuracy, flexibility and dependability — count on Radio Systems' GPS Master Clock and Timer systems.

## CONNECT

StudioHub+ makes every job faster and more complete with CAT-5—the universal wiring medium. Use broadcast's first and only wiring standard for your next analog or digital installation. StudioHub+ makes every job faster, and every job fully analog and digital ready.

Radio Systems lets you **Control** your audio with Millenium 6, 12 & 18 analog and digital broadcast consoles. A full range of features and options are available to route and mix the largest studio configurations.

CT-2002 Master and Slave Clock systems offers the flexibility to **Time** any event. Create a system with any number of analog or digital displays with GPS synchronized accuracy.

StudioHub+, the CAT-5 broadcast wiring system from Radio Systems offers prewired solutions for every type of equipment to **Connect** your studio with plug and play speed and flexibility.



Analog and Digital Broadcast Equipment

Radio Systems, Inc. • 601 Heron Drive • Logan Township, NJ 08085  
Phone: 856-467-8000 • Fax: 856-467-3044 • [www.radiosystems.com](http://www.radiosystems.com)

World Radio History



The Universal Standard for Broadcast Interconnect

# WORLD LEADER IN TALKSHOW SYSTEMS

## ONE-X-SIX



The perfect multi-line talkshow system  
for use with up to six phone lines.



## TWOx12

Make fast-paced production and high quality conferencing  
a snap with this 12 line on-air phone system.



## SERIES 2101

The world's only talkshow system especially designed to  
meet the challenges of integrating large connected  
broadcast plants.

## Introducing Nx12!



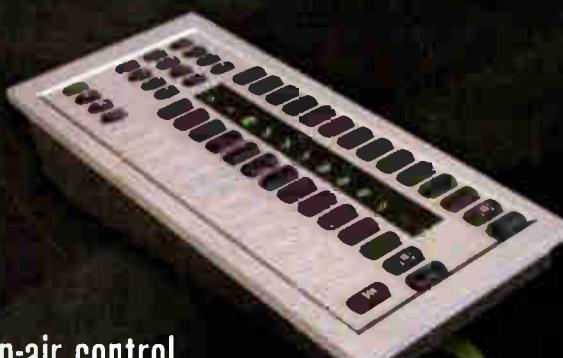
Our most flexible standalone talkshow system...ever.  
This self-contained 12 line system includes 4 hybrids and  
is offered with Livewire Audio-over-IP and either analog  
or AES inputs/outputs. Call for availability.

[www.Telos-Systems.com](http://www.Telos-Systems.com)

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Assistant Producer, Console Director, Livewire and Element TM TLS Corp. All rights reserved.

# CALL CONTROLLER

Simplified and cost effective option for call screening and on-air control.

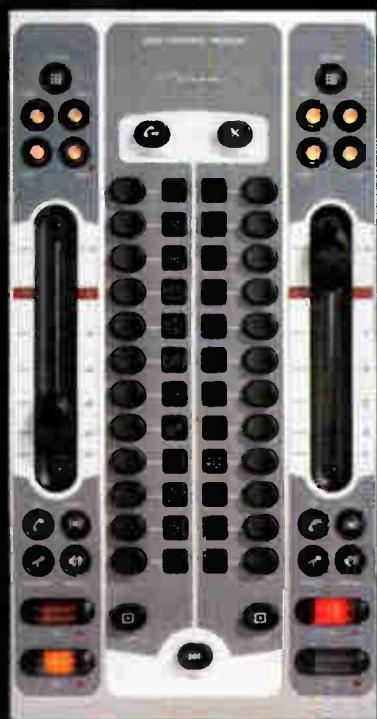


# DESKTOP DIRECTOR

Sophisticated, yet easy-to-use, control stations that make fast-paced production a snap.

# ASSISTANT PRODUCER

This talkshow management system completes your Telos multi-line talkshow system with easy-to-use client/server call screener software that provides vital real-time link between producers and talent.



# CONSOLE DIRECTOR

Console + turret mounted accessory controllers put control right at the talent's fingertips. Axia Element users get even tighter integration.

CONTROL  
AS YOU LIKE IT

*Telos*  
AUDIO | NETWORKS



North America. The filters are being used in two versions of FM combiners for 80 kW and 150 kW, with a narrow-band input of 40 kW at minimum channel separation of 1.2 MHz, and include a modified 3dB coupler in order to handle 150 kW output power.

The large and temperature-stabilized cavity of the filter makes it possible to build combiners that can offer channel spacing down to 600 kHz and high power. The mechanical design includes temperature compensation for improved frequency stability.

Contact the company via its Web site at [www.teracom-c.com](http://www.teracom-c.com).

## Henry Offers Multiphones II

Henry Engineering introduced the Multiphones II Master unit, which is used with the company's MultiPhones "Guest Pod" listening station.



The unit supports up to 12 Guest Pod listening stations, and includes a 3 Zone Talkback feature, which allows talkback to individual or groups of Guest Pod users. The Multiphones system provides each headphone listener with an individual jack, amplifier and volume control, which are interconnected by Cat-5 cabling.

Henry also showed the new USB-AES Matchbox in Las Vegas, which earned a Radio World "Cool Stuff" Award (see June 6 issue).

Contact the company in California at (626) 355-3656 or [www.henryeng.com](http://www.henryeng.com).

## Jetcast Promises New Approach to Streaming

Jetcast promoted its streaming services, saying new technology for radio broadcasters makes possible high-bandwidth services at low costs.

The firm, a division of MeTV Inc., said its goal is to save stations money on streaming costs, improving audio quality and eliminating artificial listener "caps" to simultaneous listening. A "grid" of multiple server farms is in use by the company.

"Stations shouldn't be penalized by their online success," said the company's Tom Zarecki. "Typically, the more people streaming a station, the higher that station's monthly bill, but Jetcast reverses that model. Even with huge Internet listening spikes, the station can have unlimited simultaneous listeners for the same low price each month."

Contact the company in New York at (917) 338-1487 or [www.jetcast.com](http://www.jetcast.com).

## AEQ Phoenix Is IP Codec System

AEQ introduced its Phoenix IP codec system and Bravo analog audio console.



The Phoenix comes in two versions: a studio codec and a portable remote unit. The studio codec fits in one rack unit and has stereo analog and digital audio inputs and outputs. It has two expansion ports for optional ISDN, POTS and V21/X.35 modules.

The Phoenix is compatible with other ISDN units when used with the ISDN module. However, two Phoenix units are required for POTS, V21/X.35 and IP transmissions. The Phoenix remote unit runs on a lithium-ion battery system and has an ABS plastic case, which helps it to stand up to severe field conditions.

Like the studio unit, the remote unit has expansion ports to accommodate the desired module. The unit uses a digital mixer, and has a cover that will protect the keys used for configuration and connection, and only allow access to audio mixing controls when it is in use.

The Bravo analog console, an upgrade of the 1996 "Cool Stuff" winning BC-300, comes standard with four mic/line channels, eight dual stereo line input channels and dual telephone hybrids built in. AEQ also showed its PAW 120 hand-held digital audio recorder.

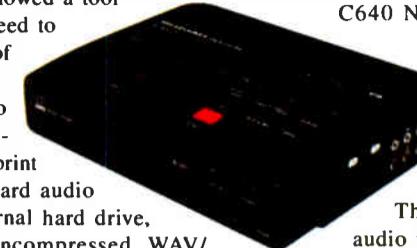
Contact the company in Florida at (800) 728-0536 or [www.aeqbroadcast.com](http://www.aeqbroadcast.com).

## Marantz Pro CDR310 Is A Field CD Recorder

D&M Professional showed a tool for radio stations that need to burn instant audio CDs of events or commercials.

The Marantz Pro CDR310 CD field recorder has a similar footprint to the PMD671 Flash card audio recorder. It has an internal hard drive, which will record in uncompressed .WAV/AIFF formats, CDDA or the MP3 compressed format.

The unit is equipped with analog line inputs and outputs, balanced XLR microphone inputs with 48 volt phantom power and S/PDIF digital inputs and outputs. The CDR310 can be operated on AC, alkaline "AA" batteries, rechargeable



"AA" batteries or the optional RB-1651 battery, which the company says can power the unit up to four hours. Once a recording is completed, a CD can be burned in minutes.

D&M also introduced the Denon Pro DN-C640 Network CD player, which allows users to access audio on CDs/DVDs and from data discs; this increases the amount of audio that can be stored and accessed from one disc.

The DN-C640 can also pull audio files from a designated network storage location, when connected by Ethernet. D&M also featured its line of digital Flash card audio recorders, PMD560 and PMD570 studio rackmount units and PMD660 and PMD671 portable field units.

Contact the company in Illinois at (630) 741-0330 or [www.d-mpro.com](http://www.d-mpro.com).

**The cash-machine formerly known as RevenueSuite returns to the airwaves as Google AdSense for Audio.**

RevenueSuite, a source of additional income for radio stations, promises to be even more so in this incarnation as AdSense™ for Audio, thanks to the power of Google technology. And when you combine that with the industry's most innovative station automation products – SS32™ and Maestro™ – you'll understand why hundreds of stations in markets of every size are starting to talk about the future of radio stations with renewed optimism.

At Google, our commitment is strong and clear and unchanging: we're here to help you run your station more efficiently and profitably than ever before.

Visit [www.google.com/ads/asaudio](http://www.google.com/ads/asaudio) to find out more.

**Google**

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**SUMMER PRODUCT PREVIEW****Targeted Text Messages for Radio**

TextCaster displayed a targeted text messaging system for radio stations.

The TextCaster system does not require hardware or software at the station level. After the set-up and training are complete, the station can place a link on its Web site for listeners to "opt in" to receive messages generated by the radio station.

Once subscribers do so, they can receive messages that reflect their interests. The system is CAN-SPAM-compliant and meets FCC guidelines. It allows for immediate interaction with listeners for polls, contests and surveys, and has optional e-mail capability.

Contact the company in Missouri at (816) 268-2584 or [www.textcaster.com](http://www.textcaster.com).

**Ward-Beck Controls Channels in Surround Environment**

Ward-Beck Systems introduced several products at NAB.

The MLC8 Multi-Channel Level Control manages the levels of multiple audio channels in a surround sound environment. The unit can



process AES, Dolby E, Dolby AC3 and analog audio in radio environments. The unit can mix down 7.1 and 5.1 surround sound formats to stereo; operators can toggle between the surround sound and stereo audio feeds.

The AMS8-1 (a one rack unit) and AMS8-2 (two rack unit) Audio Monitor System provides operators with visual and aural monitoring capability for multi-channel format audio signals. Eight VU/PPM LED bargraphs and a multi-speaker system will allow the operator to watch and listen to the signal. The units will handle all audio formats. Dolby decoders can be added, and metadata can be extracted and displayed.

The AIP8-2 Audio Ingest Processor can be used to change the levels of two stereo AES signals, and meter and monitor those signals (pre and post level control).

Contact the company in Ontario at (416) 335-5999 or [www.ward-beck.com](http://www.ward-beck.com).

**Staco Works in Various Phases**

Staco Energy Products exhibited its three-phase FirstLine UPS, single-phase UniStar III UPS and StacoSine Active Harmonic Filter.

The FirstLine UPS is a double conversion UPS for 10, 15 and 20 KVA, three-phase applications. If power grid power is interrupted the FirstLine automatically transfers the load to its on-board battery system. The standard battery time is 15 minutes at 20 KVA; optional batteries provide longer run times until power grid power is restored. The FirstLine protects connected equipment from power sags, swells, harmonics, noise, voltage imbalances and interruptions.

The UniStar III is a UPS for single-phase applications and can be connected to 120 or 240 VAC power. The unit will condition power by regulating voltage, reducing harmonics and protecting against short circuits and transients. The UniStar III has hot-swappable batteries and can be monitored through RS-232 or optional USB interfaces as well as SNMP networks.

The StacoSine active harmonic filter helps to improve electrical system efficiency by filtering harmonics on power circuits, which can be caused by data processing equipment, fluorescent lighting, UPS, frequency converters and DC power systems/chargers, among others.

By filtering harmonics, the capacity of the

connected electrical system is increased and stabilized. The StacoSine also corrects power factors, which increases efficiency and reduces electric costs. It's designed to work with three-phase, three- or four-wire circuits and line voltages from 208 to 480 volts.

Contact the company in Ohio at (937) 253-1191 or [www.stacoenergy.com](http://www.stacoenergy.com).

**Wireworks Introduces LumaVue Custom Panels & Plates**

One of the exhibit floor's eye-catching displays was at the Wireworks booth, where the company displayed its LumaVue Custom Panels and Plates.



Translucent cell cast acrylic panels come in 1/8- and 1/4-inch thickness. They can be rear-illuminated and provide maximum electrical isolation between connectors. President Gerald Krulewicz said LumaVue panels are rear-engraved, come in 10 glossy or matte no-glare finish colors and are ultraviolet-stabilized for outdoor use.

Wireworks also displayed its AVHD3 connection system, which allows for up to 230 balanced audio connections in three rack spaces; AV2000 MultiMedia Cabling interconnect system; WireLUX Premium Audio Cables for microphone, single- and multi-component installations; and AES/EBU cabling products for XLR, TRS and DB-25 connectors.

Contact the company in New Jersey at (908) 686-7400 or [www.wireworks.com](http://www.wireworks.com).

**QEI Shows New Transmitter and Translator Products**

QEI introduced the D/A series of solid-state FM broadcast transmitters.

Features include 5-1/4-inch rack-mount package, frequency synthesized broadband design, VSWR protection and wide-range AC power or DC power operation. Available in models of 100, 250 and 500 watts, the D/A series may operate in analog mode or as a low-power HD Radio transmitter.

The Frequency Modulated Oscillator (FMO) is on-frequency directly modulated phase-locked and requires no pre-distortion network to achieve low distortion, crosstalk and noise, the company stated. The front has Voltage, Current and Forward/Reflected analog meters and LED modulation indicators as well as status indicators and illuminated toggle switches. Shipping is expected in the third quarter.

Also new at QEI are two single-tube FM transmitters. The FMQ-20KWC21 20 kW and FMQ-30KWC21 30 kW transmitters employ a single 3CX15000A7 tube in a grounded grid configuration. The IPA employs a FET solid-state modular design using off-the-shelf switching regulators.

Contact the company in New Jersey at (800) 334-9154 or [www.qei-broadcast.com](http://www.qei-broadcast.com).

**Dialight Displays LED Obstruction Lighting**

Dialight displayed energy and maintenance saving options for tower lighting.

The Dialight Dual Beacon is a medium-intensity red and white beacon that uses LEDs to yield a 20,000 nominal candlepower daytime



output (clear) and 2,000 candlepower nighttime output (red). Because the unit runs on 110-240 volts AC, it eliminates the high voltage used by traditional dual-strobe lamps.

The D264 LED Based Medium-Intensity Red Beacon is designed to replace 300-millimeter incandescent obstruction fixtures and can be flashed or illuminated steadily. Dialight specifications suggest the LED fixture will use 90 percent less energy than incandescent fixtures and last years longer.

Contact the company in New Jersey at (732) 919-3119 or [www.dialight.com](http://www.dialight.com).

**Dorrough Meters Digital, Analog**

Dorrough Electronics exhibited its lines of digital and analog audio metering systems.

The company's 280 and 380 series of digital meters are two-channel AES/EBU linear style meters, designed for direct insertion into digital data streams. The 280 is a horizontally mounted meter; the 380 is a vertically mounted unit.

Dorrough also displayed the 12-AES model, which is formatted in the arc style of other Dorrough units. The company's 40 A, B and C series meters have built-in power supplies and are three-color LED display single-channel units with optional remote control and user-assignable DIP switches to set operating parameters.

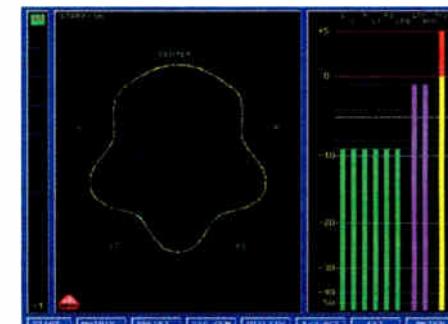
Contact the company in California at (818) 998-2824 or [www.dorrough.com](http://www.dorrough.com).

**DK-Technologies Launches StarFish Display**

DK-Technologies showed a StarFish display for its audio meters that will "allow users to see what they are hearing when they are listening in surround sound."

The company makes a JellyFish display; StarFish adds an image of acoustic audio levels as they are experienced by the listener. This is given alongside the images provided by JellyFish, which shows levels supplied to the center, left/right and left/right rear speakers.

DK exhibited upgrades to the MSD 600M Series audio meter including the latest LEQ



Loudness measurement protocol; an upgraded Jellyfish surround display; improvements in Session Logging and LEQ Logging; and graphing with SMPTE time code.

And it promoted software upgrades to various MSD Series of high-end audio meters. New 5.1 software adds loudness measuring methods in addition to LEQ (m) and Flat filtering methods available in the earlier version. "Among these are changes to the way in which Loudness is measured. This is currently a hot topic for those audio engineers who are aiming to control loudness levels in individual recordings in order to prevent disturbing changes in volume for the listener," it stated. The software allows engineers to measure loudness according to recently proposed ITU recommendations.

Contact the company's California office at (831) 335-5299 or [www.dk-technologies.com](http://www.dk-technologies.com).

**Superior Notes Interest In Translators for AM**

Superior Broadcast Products displayed low-to high-power transmission solutions for radio broadcasters, ranging from 25-watt excitors to 30 kW solid-state transmitters, transmission line, connectors and antennas.

The company's Benny Springer said, "The possibility of the FCC allowing daytime AM stations to use FM translators to broadcast a 24-hour signal generated a lot of traffic at our booth."

The company also featured its line of FM translator packages.

Contact the company in Texas at (800) 695-7919 or [www.superiorbroadcastproducts.com](http://www.superiorbroadcastproducts.com).

**Calrec Omega With Bluefin Unveiled**

Calrec showed the new Omega, which uses Bluefin High-Density Signal Processing technology.

It features 160 channel-processing paths packaged as 48 stereo plus 64 mono channels, and allows up to 24 5.1 surround channels.

"Omega is positioned between the company's Zeta and Sigma consoles and provides considerable power in a very small frame," the company stated. It is available in frame sizes of 24, 32 and 48 faders. Omega with Bluefin has eight 5.1 surround, stereo or mono audio groups, 20 auxiliary outputs (20 mono or 10 stereo) and 48 outputs for multitrack or general-purpose feeds.

The firm launched a line of remote I/O boxes to compliment its modular remote I/O box. These interface to the Calrec Hydra Network using dual Cat5e Gigabit Ethernet ports for audio and control redundancy up to 90 meters.

Contact the company in the United Kingdom at 011-44-1422-842159 or [www.calrec.com](http://www.calrec.com).

**Thales Eyes Digital FM Radio**

Thales Components & Subsystems has added a high-power tetrode for digital FM radio transmitters.

The company said its TH 594 water-cooled tetrode is suited to IBOC technology and in general to high-definition radio broadcasting technologies. It joins the TH 343 and TH 391 air-cooled tetrodes to complete the company's FM product line.

The TH 594 tetrode has 40 kW anode dissipation and delivers 35 kW of continuous wave power or 60 kW peak power. Thales said this makes it one of the most powerful FM radio broadcast tetrodes available. Features include pyrolytic graphite grids and a water-cooled anode for a high power dissipation rating.

Contact the company's Virginia office at (703) 838-9685 or [www.thalesgroup.com](http://www.thalesgroup.com).

# Wait for it....



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**SUMMER PRODUCT PREVIEW****Richardson Is Thales Distributor**

Richardson Electronics is now the exclusive distributor of Thales tubes in the United States.

The Illinois-based company has also become an authorized global distributor of Econo's rebuilt tubes, and is now the exclusive Econo rebuilt distributor outside the U.S.

In addition to its lineup of transmitter tubes, Richardson showed a different kind of tube at its NAB2007 booth — a "tube clock" made up of Nixie digital display tubes inside a transmitter-tube envelope, awarded to an attendee at the end of the show.

Contact Richardson in Illinois at (800) 348-5580 or broadcast.rell.com.

**IABM Helps Make Connections**

The International Association of Broadcasting Manufacturers attended the NAB to meet members and introduce itself to potential new ones.



Representing broadcast and media technology suppliers worldwide

Cindy Harwood, manager of marketing and member services, said the group is the "only international trade organization representing broadcast equipment manufacturers." It assists companies in event organization and management; it also acts as a liaison with convention centers, for example, and can assist members with negotiating to obtain group rates on facilities and services for large industry shows and events.

In addition to a free database of member products and services, there are additional member-only services. Included are market intelligence and research, technical services, information and advisory services, networking, training and awards.

Visit [www.theiabm.org](http://www.theiabm.org).

**Solutions Radio Expands Receiver Capabilities**

Solutions Radio BV showed new applications and expansions of its stand-alone Internet receiver, which can be operated without a PC.

It said more than 1,000 churches use the ChurchWebradio system to reach shut-ins using an analog telephone line or DSL connection. The receiver is now also available with a WiFi interface.

"The same concept is used for ethnic radio to distribute homeland programs to a closed-user-group of ethnic people," the company stated.

E-mail [mmeulen@solutionsradio.com](mailto:mmeulen@solutionsradio.com) or [www.solutionsradio.nl](http://www.solutionsradio.nl).

**GSS Shows Affordable Alert Receiver**

Global Security Systems exhibited the First Alert System Emergency Warning Receiver, a wireless, battery-driven receiver designed for mass distribution of alerting messages to the public and costing less than \$25 in quantity. The system uses the national FM transmission network to deliver data to the receiver.

The company promoted its Geo-Targeted FM-Based Mobile Advertising. "Brands are exploring the potential of using wireless appliances as an advertising channel," it stated. "The more targeted the message, the more positive the

experience will be for the consumer. GSS has introduced FM-based geo-targeting, delivering location-based identification for advertising purposes."

The FM-based data channel, separate from SMS RF channels and protocol, uses the display, antenna, battery and microcontroller of current appliances and uses FM signals to deliver mobile advertising data.

GSS earned an RW "Cool Stuff" Award for its USB Stick for Emergency Alert; see June 6 issue.

Contact the company via e-mail to [sales@gssnet.us](mailto:sales@gssnet.us) or [www.gssnet.us](http://www.gssnet.us).

**Minnetonka Processing Tool Is Automated**

Minnetonka Audio Software demonstrated several software programs including Audio Tools Batch Pro, an automated tool for converting, transcoding, encoding and applying plug-ins to sets of audio files in a batch mode.



Users specify input files, configure a chain of processors, set parameters for each processor and run the job. Files are automatically processed and placed in the specified output location. Integrated access to vintage analog processors and external digital processors, the company's Surcode encoders and VST plug-ins including stereo and surround is possible.

Audio templates can be created such as dynamic processing or effects, then applied to all files in the batch to create uniform elements such as the sound of a voice on a telephone.

The company said the product is suitable for high-end audio post-production facilities. Shown, Steve Clarke demonstrates Batch Pro.

Visit [www.minnetonkaaudio.com](http://www.minnetonkaaudio.com).

**Concatenation Key to RadioWeather.com's Live Sound**

Dave Scott, president of RadioWeather.com, explained one of his company's featured products: a weather system that is automated but sounds live.

A station need only connect to a weather data source including a weather supplier, NOAA or local weather instrument. Data is downloaded and a forecast is created with one of several male or female voices the station selects.

Scott said the key to sounding live is "concatenation" that uses phrases instead of stringing together individual words. His system builds a forecast using a mixture of 8,000 phrases each of his talent records. The talent also can record local landmarks or sponsors to further personalize the forecast and current conditions.

Scott also said "advertisers want accountability" and his RadioTraffic.com offers a program called "E-mail My Times" through which advertisers are notified in advance of the run of their spots. Times are logged within one-half second, and advertisers also are able to download actual airchecks of spots as they ran.

Contact Dave Scott in Dallas at (888) 888-0777 or [www.radiotraffic.com](http://www.radiotraffic.com).

**Broadcast Tools Debuts ProMix 12 Console**

Broadcast Tools had its new ProMix 12 on display. The broadcast audio mixing console, a 2007 Radio World "Cool Stuff" Award winner, is suitable for broadcast and audio production facilities needing a compact solution.

Also featured: the ADC-1 analog to digital converter. It provides 24-bit A/D conversion, and is suitable for converting the analog output of equipment to stereo AES. It may be configured for sample rates of 44.1 or 48 kHz (32 kHz may be special ordered), or an external word clock from 32 to 96 kHz.

Additional highlights include the ACS 3.2 USB, which provides matrix audio switching of three stereo inputs to two stereo outputs; the Intellitouch, which provides GPS or NTP referenced master clock; and the WVRC-4, a half-rack solution for Web-based and/or recordable voice response dial-up transmitter site control.

Contact Broadcast Tools in Washington state at (360) 854-9559 or [www.broadcasttools.com](http://www.broadcasttools.com).



printing and automated ripping of audio CDs.

Graphics software allows users to create full-color images onto the disc face. The Medley also integrates with iTunes and Windows Media Player to automate audio disc ripping.

Features include 50 DVD or CD capacity; necessary software and cables; and a built-in CMYK 4,800 DPI inkjet printer.

The Disc Makers Medley began shipping in May.

Contact Disc Makers at (856) 663-9030 or [www.discmakers.com/medley](http://www.discmakers.com/medley).

**Dolby Features Audio Mastering Software**

Dolby Laboratories showcased the Dolby Media Producer, a line of four software products for audio mastering, including encoding, decoding and supporting tasks, that support Dolby technologies for disc-based media formats such as HD, DVD and DVD-Audio.

The company also debuted Dolby Media Encoder SE, which provides the same functionality as the Dolby Media Encoder network version, but is designed for single-computer use.

Additionally, Dolby announced universal applications for its Media Producer products, which run natively on Intel and Power PC systems alike, giving Mac users optimum performance.

Visit [www.dolby.com](http://www.dolby.com).

**PodcastReady Compresses, Posts Podcasts**

WireReady offers PodcastReady, which automatically records, converts, compresses and pastes together playlists of files and then publishes podcasts to the Web, complete with RSS feeds to one or more Web sites. Users can record and podcast existing shows, or schedule files that are already in-house to be sent to the Web site automatically.

Highlights include scheduling recordings on a 24/7 basis; recordings auto-converted to MP3 or WMA; converted files auto-FTP'd to the Web site; RSS/XML feeds updated automatically; and grabbing existing files on an LAN for conversion and uploading with the above features.

Operators also can use PodcastReady to build podcasts quickly by sending an existing audio file to the Web site, where it is converted, compressed and uploaded.

Contact the company in Massachusetts at (800) 833-4459 or [www.wireready.com](http://www.wireready.com).

**AP Has ENPS Mobile**

Associated Press Broadcast Technology is promoting ENPS Mobile, a link to the newsroom system that runs on pocket devices, giving access to news wires, rundowns, assignment planners and stories.

"Search for wire or news content and send and receive top-line messages with journalists back at your home base," the company said. It is based on the next generation of technical architecture for ENPS. Also enhanced: SNAPfeed, AP's media store and forward application. New features include the ability to accept transmissions from phones and other mobile devices, and integration with a customer's FTP infrastructure to combine media management into one interface.

Contact the company in Washington at (202) 736-1120 or [www.enps.com](http://www.enps.com).

**Wegener Updates Network Control System**

Wegener promoted its audio distribution equipment as a way to open new revenue streams for radio broadcasters by maximizing operational control of live and stored audio broadcasts.



Operators can deploy the iPump 6420 Media Server within a Unity receiver network to launch file-based distribution of repetitive or regional content. The iPump 6420 can blend live and stored audio content through the use of audio fades, mixes and pre-positioned station liners.

The Compel network control system is deployed to manage content delivery, disaster recovery and blackout/embargo enforcement for multi-site networks. Operators have enhanced control of receive devices at affiliate locations, enabling them to regionalize content and ad insertions.

Media can be delivered through file distribution, terrestrial connections and VSAT network support. Compel II is built on an open architecture operating system and offers SQL database access to internal functions and integration with network traffic and automation systems. It is modular, providing scaling and tailoring. A Web-based interface allows multiple, individually permissioned operators to take control of their individual responsibilities for network operations simultaneously.

Contact the company in Georgia at (770) 814-4000 or [www.wegener.com](http://www.wegener.com).

**Disc Makers Medley Integrates With iTunes**

Disc Makers debuted an entry-level automated DVD/CD duplicator and printer, the Disc Makers Medley.

The disc printing and burning system is enclosed in a protective housing with a small desktop footprint, and is designed for a range of uses requiring DVD or CD duplication, on-disc

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## SUMMER PRODUCT PREVIEW

## SoundField Shows Digital Microphone

SoundField was showing its first digital microphone, the DSF-2.

It can be used at up to nearly a mile from an associated broadcast vehicle; it simultaneously captures stereo and surround audio, which is marketed as a benefit to video users and may have interest now for radio as well.

Also on display: the recently introduced ST350 portable microphone for field recording. It weighs around 2/3 of a pound and measures about half the size of the older ST250 mic. Running from the mains or 9–18 V power cells, the ST350 may be used with cable runs of up to more than 600 feet from its control unit, even when operating from batteries. It is suitable for broadcasters who need a compact mic for live remote situations with surround capability.

E-mail [sales@soundfield.com](mailto:sales@soundfield.com) or [www.soundfield.com](http://www.soundfield.com).

and speaker location, which are monitored on any stereo headphones. An ultrasonic sensor tracks head movement so, for example, as the listener turns to the left, center channel information is heard through the right cup of the headphone. List price for the external processing device, headphones and tracking device is \$2,990.

The new DT880 Pro headphone, shown, is a more robust version of the standard DT-880, with a steel headband and more robust yoke system for \$349.

Contact the company at [www.beyerdynamic.com](http://www.beyerdynamic.com).



## Merging Exhibits Updated Pyramix

Merging Technologies came to the NAB show with version 5.1 of its Pyramix digital audio workstation.

It offers simultaneous playback and recording of audio tracks at resolutions ranging from 16-bit, 44.1 kHz to DXD (352 kHz) and DSD for SACD production. The foundation for its recording and processing is the Mykerinos PCI-format DSP card, at least one of which lies at the center of non-native Pyramix systems, the company says.

Merging also announced the sixth generation of the Mykerinos line, the MYK-X series cards, with a range of associated I/O daughter cards.

Contact distributor Independent Audio in Maine at (207) 773-2424 or [www.merging.com](http://www.merging.com).

## HeadZone Is Surround 'Environment'

Beyerdynamic came to Vegas with the "HeadZone," a 5.1 surround monitoring environment that can be used with a standard set of stereo headphones.

HeadZone can simulate room size, ambience

## Korg Offers Portable DSD Recorder

The Korg MR1 is a portable, 1-bit 2.8 and 5.6 MHz recorder for recording and archiving DSD audio at 45 MB and 90 MB per stereo minute respectively.



The USB-accessible 20 GB internal drive supports six hours of high-bandwidth recording. Exporting audio as WAV and AIFF of lower specs down to MP3 are also supported. The list

price of \$899 including an electret stereo mic, basic Mac/PC editing software and AC adapter; it also runs on rechargeable Li-Ion batteries. The larger MR1000 records 1-bit at 5.6 MHz, double the 2.8 MHz (SACD) standard, has balanced mic inputs and auto limiter with Phantom Power 40 GB drive does not include mics. It plays MP3 files, but does not record them. Retail is \$1,499.

Contact the company in New York at (631) 390-6500 or [www.korgusa.com](http://www.korgusa.com).



Visit [radioworld.com](http://radioworld.com) for CoolCast video demos of all the 2007 "Cool Stuff" Award-winning products.

analog with a low-frequency response of 33 Hz and has a street price of \$4,000 per pair.

Contact the company in Connecticut at (860) 434-9190 or [www.klein-hummel.com](http://www.klein-hummel.com).

## DSP Speakers Improved at Genelec

Genelec has tweaked its DSP speakers, first shown at the previous NAB convention.

The GLM and AutoCal software is compliant on PC and Mac OS X platforms. The new DSP allows all monitors to be on a network; this



allows the AutoCal feature (with included calibration mic) to sweep sine waves through the monitors, analyzing the space and adjusting how the speakers perform in a particular space. Different calibration point presets allow the engineer to choose adjust the response of the system.

Included in the Genelec DSP bi-amped series are the Model 8240 (90w/90w, 45 Hz–20 kHz) and the Model 8250 (150w/120w, 35 Hz–20 kHz). List prices, respectively, are \$1,595 and \$2,550 each.

Contact the company in Massachusetts at (508) 652-0900 or [www.genelec.com](http://www.genelec.com).

## VT401 Is Tiny Lav

Voice Technologies presented a new, ultra-small, water-resistant VT401 lavaliere mic.

New manufacturing capabilities permit the molding process, the company said. The mic is in wide use by Austrian Nation Television. List price is \$275 (unterminated) and includes five mounting accessories and mechanical HF EQ cap. Available in black or beige.

Contact Redding Audio in Connecticut at (203) 270-1808 or [www.voicetechnologies.net](http://www.voicetechnologies.net).

## Neutrik Enhances XX Series, Adds RF Block

Neutrik USA showed several enhancements to its XX series connectors in Las Vegas.

The HTXP hand tool tightens the XX series connector boot or the company's PX plug bushings. The clear XXCR coding ring replaces the standard XXR coding ring on the XX series connector.



## K+H Powers Up

At the Sennheiser booth, Klein and Hummel showed the M52 and M52D Klein and Hummel small, powered reference monitors with analog, AES/EBU and SP/DIF digital I/O in a rugged aluminum enclosure for studio or field use.

The universal power supply runs from 85 to 230 V AC and 12–20 V DC. This new, louder version is rated at 100 dB SPL at one meter. Frequency response is 100 Hz to 20 kHz. The price is \$845 each.

The K&H 0300D triamped powered reference monitor previously came with a digital input. The new, less expensive 0300 provides 100w/60w/60w from bottom to top, is straight

The SCDR plastic cover, which fits over the rear of several D-sized chassis connectors, and protects against electric shock with the PowerCon connector, creates an airtight assembly with XLR connectors, and offers dust protection on OpticalCon connectors.

Neutrik also introduced the DLX line of chassis connectors, with all-metal construction offering improved RF shielding. The DLX series is an enhancement to Neutrik's DL1 line of chassis connectors, and offers a shielding solution when mated with EMC-XLR RF blocking cable connectors, also featured at the booth. An EMC-XLR is shown.

Contact the company in New Jersey at (732) 901-9488 or [www.neutrikusa.com](http://www.neutrikusa.com).

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Writes about: The human side of broadcasting

Experience: Six years in radio and TV, 23 years running a commercial jingle studio and more than two decades writing for Radio World

Formerly wrote under the name of: Ken R.

Learning Experiences: Returning to college after a 35-year absence, volunteering for Make-A-Wish Foundation

Quote: "We can't possibly understand life so we may as well enjoy it."



Radio World's pages are home to the finest writers and columnists in the industry. Like Ken Deutsch. Just one more reason we're the newspaper for radio managers and engineers.

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FIRST PERSON

# The View From the Back of the Room

*Tips for Reporters and Others Covering Press Events, By the Audio Guy in the Back*

by Gary Palamara

Corporate mergers, product announcements, movie premieres and political whistle stops are examples of planned news events. They usually are choreographed, with access to newsmakers tightly controlled. The bottom line for the PR staff is to orchestrate everything in such a way as to present the "product" in as favorable a light as possible.

Providing professional media with amenities such as good lighting, staging and high-quality audio is part of the sell. But while this level of control may appear overwhelming for reporters who aren't used to it, the pre-planned news conference usually benefits everyone involved. Reporters get access to newsmakers or product announcements in advance of their deadlines; the PR people get their message out to the public in a more orderly manner.

## At the bridge

Audio feeds at such events typically will be offered to the press via a "press bridge" or "press mult box." Both names mean the same thing and are used interchangeably.

The press mult can take many physical forms, but it's generally a small box with output connectors to which news crews connect their equipment. The sound engineer in charge of the event feeds the mult with clean audio and everyone gets the same high-quality signal.

But while individual reporters or news crews most often focus only on their own setups, the engineer who's running the equipment is responsible for all of the sound at the event.

In addition to podium and dais microphones and the house sound system, myriad equipment often needs to be set up including wireless or shotgun mics with fold-back monitors so the talent can hear the questions from the audience and playback from video or audio sources. At some events, feeds may be coming in via satellite, microwave or telephone. It's a lot to juggle for the uninitiated.

When a reporter has a problem with his or her audio feed, it's not surprising that at least one finger gets pointed in the direction of the audio technician behind the controls.

There are as many reasons audio is recorded poorly as there are reporters and audio technicians. But let's make at least two big assumptions.

One is that the audio leaving the press mult is clean and undistorted. The other is that the audio equipment used by the reporter is working according to its factory specifications.

So how can things still go wrong?

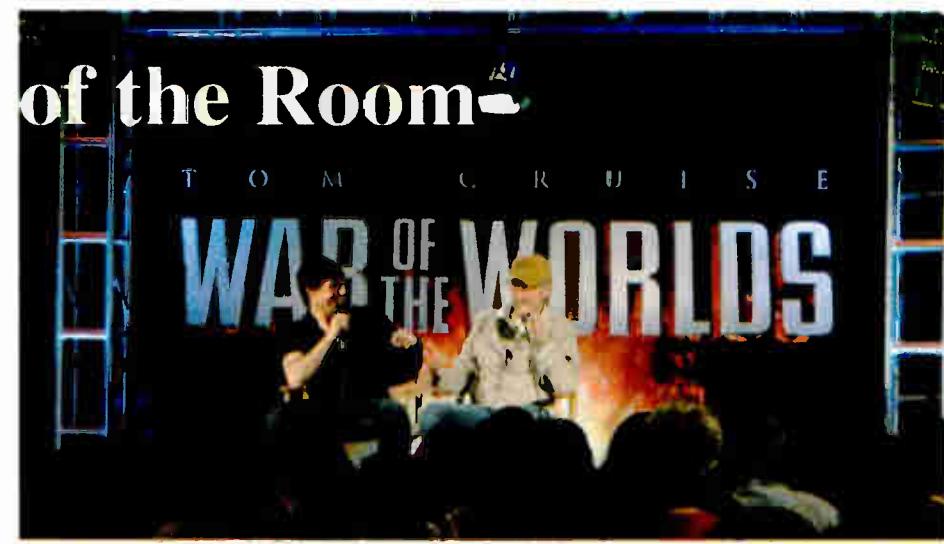
Mismatched audio levels between the output of the press mult and the input of the recorder; incorrectly wired or broken cables; problems with ground loops, hum or buzz; and situations out of anyone's control can intrude on real-world events.

But while the engineer sometimes is blamed for providing bad audio, more often he can be your savior if you are the reporter in trouble.

Most audio people I know (certainly

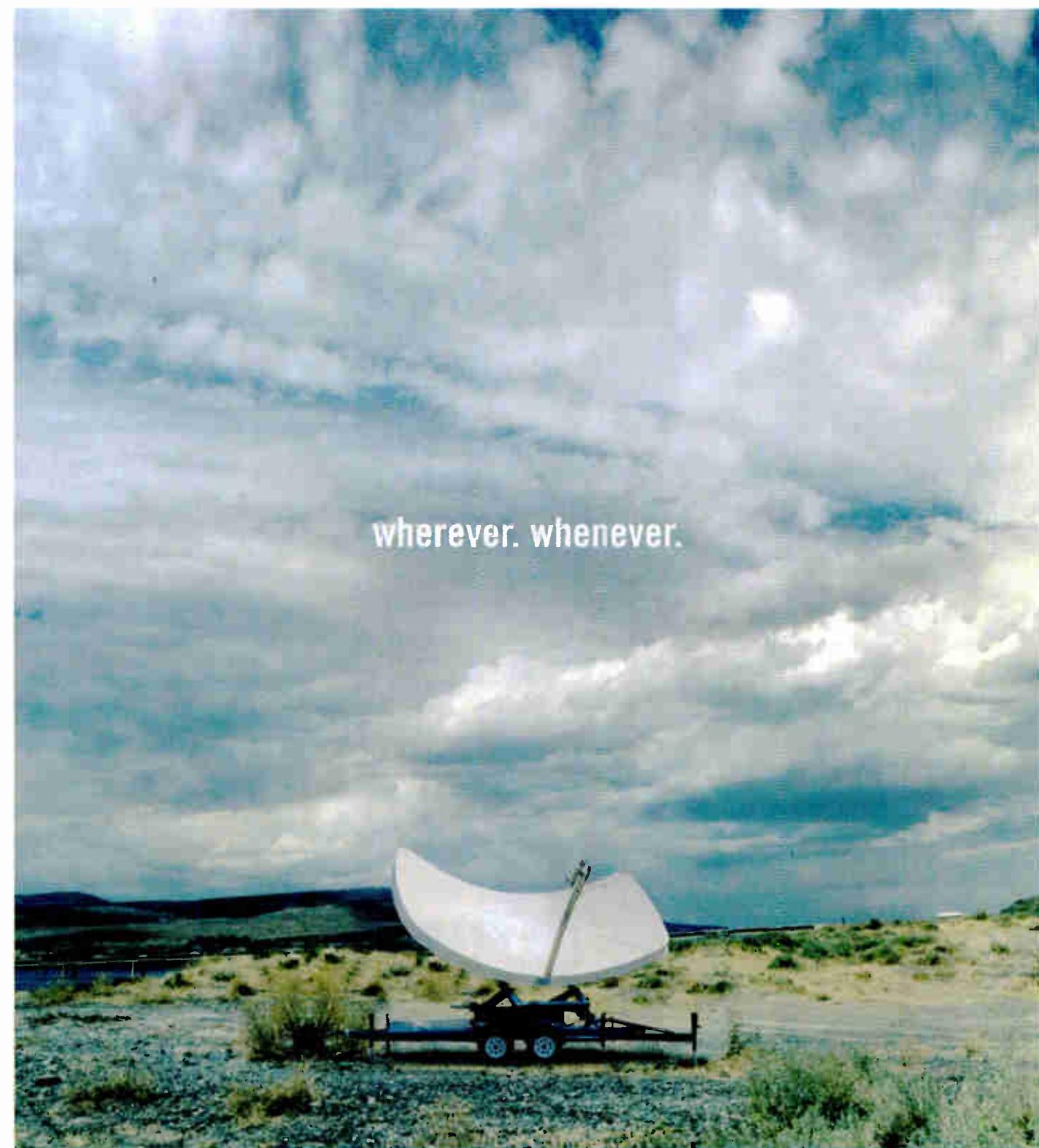
those I hire) are more than happy to assist reporters who have problems with feeds we provide at press conferences. After all, if reporters walk away happy, the client is happy. If the client is happy, we will be hired again and that makes us happy. The reporter gets good audio, the client gets the word out and the audio engineer gets a reputation for providing a high-quality product.

No technician wants to be driving  
See VIEW, page 39 ►



Tom Cruise and Steven Spielberg on stage at the 'War of the Worlds' press conference.

Photo: Gary Palamara



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# KKOL Fights to Keep Transmitter Site

**U.S. Oil and Hatfield & Dawson Say RF Could Cause a Spark That Would Ignite Fuel Vapors**

by Scott Fybush

For Salem Communications' KKOL (AM) in Seattle, last fall's sign-on of a new 50 kW transmitter plant near the Port of Tacoma was supposed to be the end of an odyssey during which the station operated from a ship while it searched for a new site.

Instead, the talk station has found itself at the center of a fight that pits its license to transmit against safety concerns at a nearby oil refinery, leaving the station at reduced power while it tries to protect the \$2 million investment it made in the new transmitter site.

#### On the waterfront

The KKOL story began in 2001, when the station lost its longtime tower site at the Port of Seattle to a port expansion plan there.

To keep the station broadcasting while a new site was built, local engineer Jim Dalke built a temporary 1 kW facility using a Valcom antenna mounted on an old freighter docked in Elliott Bay (RW, Dec. 18, 2002).

That "temporary" facility ended up being used for almost five years as Salem searched for a workable new home for KKOL. In the end, the station found a site on the Tacoma waterfront with a water path to Seattle, where it built four new towers and a 50 kW transmitter plant.

Testing of the new facility began in the fall of 2006, and the signal (with 50 kW day and 47 kW at night) was licensed in January of this year — and with that, the station's search for a permanent home seemed over.

On March 1, one of the new site's neighbors, U.S. Oil & Refining Co., filed a Petition for Reconsideration asking the FCC to rescind KKOL's license to cover,

kicking off what's fast becoming one of the most unusual NIMBY cases in the world of AM transmitter facilities.

The U.S. Oil complaint claims that the KKOL daytime signal was strong enough at U.S. Oil's offloading facility, about half a mile away, to draw arcs as workers unloaded crude oil from tankers, as well as

to deliver fuel to its docks, the flow of fuel to the base might be cut off.

U.S. Oil declined Radio World's request for an interview. Hatfield & Dawson principal Benjamin Dawson said the FCC filings spoke for themselves, noting only that "there have been instances where AM stations have had conditions on their licenses with regard to port facilities."

As an interim measure, Salem first offered to switch KKOL to its night pattern (which directs less RF energy at the U.S.



KKOL's transmit site near the Port of Tacoma during program testing last September.

interfering with sensors at the refinery and with the refinery's phone system.

In subsequent filings, U.S. Oil, working with the Seattle consulting firm of Hatfield & Dawson, expanded on its concerns about the strength of the KKOL signal, raising the possibility that the RF from KKOL could be strong enough at the docks to cause a spark that would ignite fuel vapors or the fuel itself being unloaded.

Since the refinery provides fuel to nearby McChord Air Force Base, U.S. Oil also raised the specter that if suppliers refused

Oil docks) whenever a tanker was being offloaded, then began operating KKOL on the night pattern with 25 kW during daytime hours at the FCC's request.

Dennis Ciapura, Salem's senior vice president for broadcast development, says that temporary solution costs KKOL more than 700,000 potential listeners who fall outside the station's 2 mV/m contour under the night pattern.

"The station was licensed by the FCC, and was in operation" before the U.S. Oil complaints began, Ciapura said.

"Our policy is, we fix everything at no cost to the neighbors," Ciapura told Radio World. "We offered to send a team of engineers to survey their whole refinery and fix any grounding issues."

#### 'Stop-gap'

As an initial step, the refinery rented an on-shore crane and nylon strapping to offload fuel from incoming freighters, in an attempt to prevent the completion of a circuit that could cause a spark.

"This stop-gap measure is not an acceptable solution," U.S. Oil told the FCC, "... because U.S. Oil cannot eliminate the ignition source created by KKOL(AM) over the dock and refinery."

Salem has enlisted its own experts to refute U.S. Oil's claims of an ignition danger. Ciapura says their conclusion is that KKOL's operation poses no threat to the refinery's operations.

"There has never been a case of a radio station causing an explosion at a refinery, ever," Ciapura says.

A declaration filed with the FCC by Dr. Vytenis Babrauskas, working for Salem, concurs.

"There are thousands of high-power transmitters operating around the world, and many of them are in industrial zones which include chemical, petrochemical plants, military facilities and similar installations," Babrauskas wrote. "Because of this huge profusion of transmitter installations, were there to be an identifiably non-zero risk of such ignitions, such accidents would be regularly reported in the literature. Yet, there is no record of an explosion that would have ever originated from such capture of RF energy."

**There has never  
been a case of a  
radio station causing  
an explosion at a  
refinery, ever.**

— Dennis Ciapura

Babrauskas says the onus is on U.S. Oil to control any potential release of flammable vapors. And Ciapura says any vapor cloud concentrated enough to pose an ignition hazard would be dangerous in its own right to anyone on or near the docks, even if it did not ignite.

"They don't shut the refinery down when there's static overhead," Ciapura says, noting that U.S. Oil's petition to the FCC indicates that the plant operates 24/7, 365 days a year, which would include thunderstorms.

"If they don't control their vapors, they represent a huge danger to their workers and the public," Ciapura said.

Representatives of Salem and U.S. Oil met with the FCC's Media Bureau staff on April 7, and Ciapura says the commission was sympathetic.

"I think the FCC would be concerned that a licensed broadcast facility is under attack," Ciapura said.

He says there are other extraordinary circumstances playing out in the KKOL fight.

"I was shocked to find Hatfield & Dawson, who have represented broadcasters for years, taking the oil company's case," Ciapura said.

See KKOL, page 39 ▶

## Time is Infinite



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# View

► Continued from page 37

home from a news conference and hear hum or distorted audio from the car radio speaker when an "actuality" is broadcast over the air.

But while most audio engineers are more than willing to help out, in fairness reporters have to meet us halfway.

Things change quickly and keeping up with what's new is an ongoing process for reporters and engineers. In today's world any machine that can record an audio signal will find its way into a press event. DAT machines, MiniDisc recorders, micro and standard audio cassettes, Flash card recorders, laptop computers and even Apple iPods routinely are used to collect field audio.

It would not be astonishing to find that every reporter at a press conference or radio roundtable was using a different brand or model of audio machine to capture their sound.

While some machines are pretty straightforward, some are not. Some are so small and packed with menus and features that even the most experienced technician would have to refer to the owner's manual just to turn the machine on.

Become familiar with your equipment before going out into the heat of battle. If you get a new piece of audio gear, do a few practice recordings before you have to use it in the line of fire. Try out the cables and equipment and check for hum or noise in a relaxed setting and if need be, bring the owner's manual with you for reference.

## Come early

Ours is a small world. Even in a big city like New York, you start running into the same reporters on nearly every job after only a short time in the business.

I've noticed that the same faces always show up early at press events; sadly, other faces consistently show up late. Like it or not, some people seem to arrive just before or sometimes even after the event has started.

The best way to improve your odds of getting quality audio in the field is to arrive early.

By being an early bird, you can set up and test your gear without any of the last-minute chaos that often surrounds media events. If the sound technician doesn't offer to help test your feed prior to starting, ask for a formal test using the actual

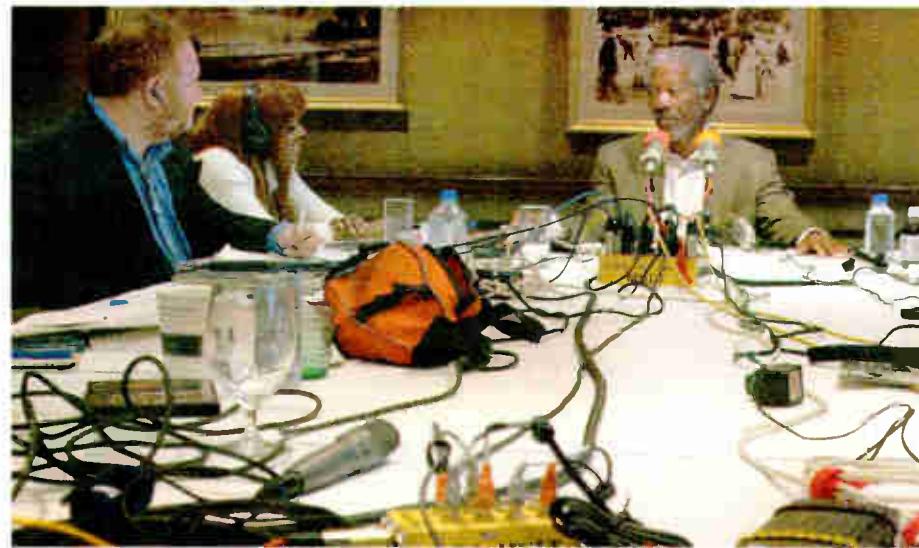
# KKOL

► Continued from page 38

There's no retreating to the "temporary" shipboard facility, either. Dalke, who installed KKOL's floating transmitter site, says the antenna and transmitter have been dismantled and the freighter is now moored at a different Seattle location. Dalke worked with Salem on the 2001-02 installation; he's now assisting with the U.S. Oil case against KKOL. He has been chronicling the case in reports for the Seattle SBE Chapter 16 newsletter, *The Waveguide*.

While awaiting an FCC ruling on U.S. Oil's petition, all sides agree on one thing: They're in the midst of one of the most unusual interference complaints anyone in the AM radio field can recall.

"I've never seen anything like it," Ciapura said. "We've always been able to solve a problem."



Reporters Audrey Bernard and Don McLaughlin talk to actor Morgan Freeman about his role in the movie 'Million Dollar Baby.'

microphones set up at the podium or dais. If you have a problem, you will probably get a more favorable response by asking now. Once the conference has begun, the technician may not be able to leave his or her setup to help you with a problem.

As a professional audio engineer it has been my goal to make sure that every reporter comes away from one of my press events with the best possible sound quality. Working together will make both of us sound good.

*Share your first-person tips or stories from radio remotes or press conferences. Write to radioworld@imaspub.com.*

*From 1968-'72, Gary Palamara worked with the Armed Forces Radio & Television Service while serving with the United States Air Force. For the past 30 years, he has been a freelance broadcast engineer and owner of Morningstar Sound.*



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# Workbench

Radio World, June 20, 2007

Past columns are archived at [radioworld.com](http://radioworld.com)

## Keep Emergency Keys Safe

by John Bisset

Bill Sullivan starts out this column with a procedure to improve the accuracy of computer clocks, initially discussed in the May 9 *Workbench*.

The National Institute of Standards and Technology offers free software for both Windows and Mac. Bill has been using it for several years and it works well.

Currently, he is running it on his AVTime master machine, to keep the system synchronized to the rest of the world. The free software is available at <http://tf.nist.gov/service/its.htm>.

Bill Sullivan is the director of engineering for Mega Stations and can be reached at [wsullivan@megasations.net](mailto:wsullivan@megasations.net).

★★★

Ed Dulaney is market engineer for Crawford Broadcasting's Denver cluster of stations. Ed also responds to our May 9 column about the problem with Windows XP time synchronizing being a "non-adjustable" interval.

"That is simply not the case," he replies. "Although the procedure isn't straightforward, the time interval is adjustable." Adjusting the time interval is done through that wonderfully complicated mechanism known as the "Windows Registry."

To change the time adjustment interval, start the Registry editor by clicking "Start | Run" and typing "regedit" in the field. Once you're into the editor, navigate to HKEY\_LOCAL\_MACHINE, click on SYSTEM, then go to ControlSet001, then Services, and drill on down to W32Time/TimeProviders/NtpClient.

Under the NtpClient key is an entry called SpecialPollInterval. The default value is 604800 seconds, which corresponds to seven days. Change that interval to your desired value by double-clicking on the entry (or by right-clicking and selecting "Modify").

As an example, if the desired update time is two hours, you would enter 7200 into the DWORD value box. Remember that all values need to be in seconds. It's also important to note that the editor will default to hexadecimal values. Be sure to change that to decimal before you make your entry, or strange things may happen!



Fig. 1: This heavy-duty lock hides a surprise inside ...



Fig. 2: ... a spare key for the transmitter building, when you know the combination!

Ed Dulaney can be reached at [edulaney@crawfordbroadcasting.com](mailto:edulaney@crawfordbroadcasting.com).

★★★

Speaking of "Time and the Broadcast Engineer," a company known as Timestrip Technology offers a different twist on time.

Its product, the "Timestrip," was developed primarily for monitoring food freshness, but these strips can be used for other time sensitive non-food items.

Three labels accurately monitor elapsed time, but for different applications. One is for refrigerated items, another strip is used in the freezer, and the Timestrip is used to monitor items at room temperature, up to four months.

Timestrips are unique and inexpensive. Consider this a single-use visual alarm clock "label" that can be applied to virtually anything.

Peel off the backing paper of the Timestrip and squeeze the bubble to activate. The adhesive-backed Timestrip can then be applied to whatever is being monitored. How about the length of time a transmitter air filter has been in service?

The first window shows the strip has been activated, then a slowly moving bar will indicate elapsed time, up to four months. Head to the company's Web site [www.timestrip.com](http://www.timestrip.com) for more information and to order online.

★★★

How about Fig. 1 for a massive Master padlock? Actually, this heavy-duty lock opens up to reveal a site key or two. For site doors that are fitted with cylinder locks, or in cases where combination locks aren't desired for each hasp, this heavy-duty key holder works well.

Even if you carry an enormous key ring for all your sites, this Master padlock can hold a spare key, just in case. It is available at larger locksmith or hardware stores.

Thanks to Grady Moates of Loud and Clean Broadcast Science for sharing this tip. Grady can be reached through his site at [www.loudandclean.com](http://www.loudandclean.com).

★★★

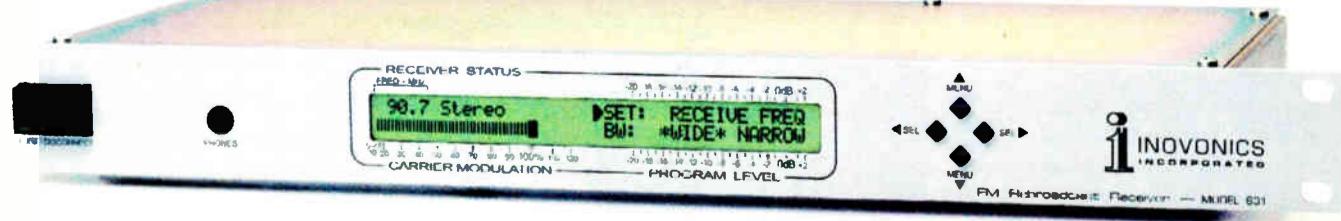
See LOCK, page 41 ►

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## NEWS WATCH

## Mexico to Allow IBOC on Border

**COLUMBIA, Md.** Mexico has been watching with interest what terrestrial digital radio technology the U.S. would adopt. Now it has proposed allowing stations along the northern U.S. border voluntarily to begin broadcasting with HD Radio technology. The proposal applies to stations within 200 miles of the border, according to Iboiqity Digital.

There are 80 FM and 120 AM stations in that area. Iboiqity believes 15 may be on the air by the end of the year, it told RW.

## Fraunhofer Opens Coding Office

**SAN JOSE, Calif.** Fraunhofer has opened a U.S. office for audio coding. The Audio and Multimedia Division of Fraunhofer USA hopes to promote audio coding and multimedia real-time system technologies — like MPEG Surround, MP3 Surround, AAC Low Delay and Mobile-TV — to Silicon Valley companies and other U.S. customers.

According to the general manager of the new division, Robert Bleidt, companies like Cisco, Harmonic and Palm have used Fraunhofer-developed technologies such as MP3, AAC and H.264 for years.

## Investigators Probe Catalina Fire

**AVALON, Calif.** The Los Angeles County Fire Department was looking into the cause of a fire on Santa Catalina Island that burned more than 4,000 acres.

One home and six industrial businesses were burned; no one was seriously injured, according to published accounts, though a Crawford Broadcasting employee was hurt in a related run-in with a tractor.

Crawford Broadcasting Director of Engineering Cris Alexander said fire officials continued their investigation at the transmitter site of KBRT(AM). Crawford is cooperating in the investigation.

Contract workers from Allstate Tower out of Henderson, Ky., hired by KBRT, apparently were cutting steel antenna cable with a gas-powered circular saw when the fire started, according to The San Diego Union Tribune. The report quoted KBRT Chief Engineer Bill Agresta as saying he had warned the contractors not to use the equipment because the island was dry.

Crawford could not comment on the cause of the fire, said Alexander, who is also an RW contributor.

Agresta was recovering from three broken ribs sustained from a collision with his tractor, commandeered by one of the contract workers, during the fire.

## Lock

► Continued from page 40

The remote control folks at Burk announced that the ARC Plus can now integrate live security camera images. It's pretty cool, and it was up and running at the NAB, with cameras mounted in the booth. Burk staff tell us almost everyone was thinking of copper thieves when they saw the demo.

The new capability allows broadcasters to use Burk's AutoPilot Plus software to monitor feeds from remote cameras, alongside telemetry from the transmission system, or other unattended facilities. By adding security monitoring to the

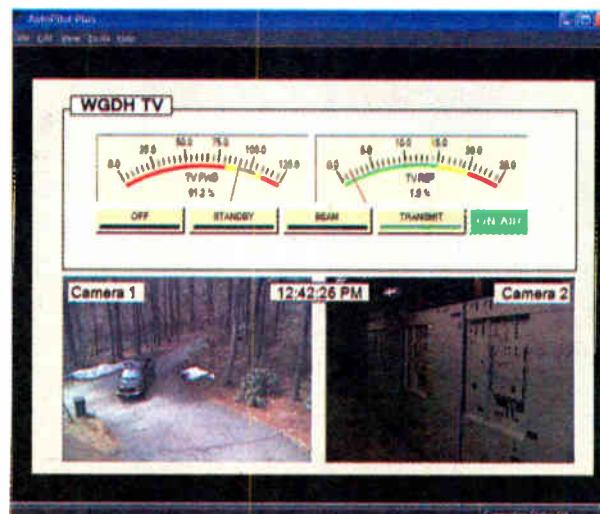


Fig. 3: Burk Technology adds site security camera images to their ARC Plus with AutoPilot.

platform, engineering and central monitoring personnel benefit from greater confidence in site security. A sample screen shot is shown in Fig. 3.

And here's a special offer: Burk Technology will provide a free security camera with any ARC Plus order that includes AutoPilot Plus software. This offer is valid until July 30. More information can be obtained by visiting the Burk site at [www.burk.com](http://www.burk.com). Click on the special offers, under Shortcuts, on the left of the page.

*Faxed submissions can be sent to (603) 472-4944. Submissions for this column are encouraged, and qualify for SBE recertification credit.*



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# WZLX: Programming A Surround Station

*Reports From an Early Adopter in a Major Market Provide Insight on How To Fill a Format With Surround Content*

One of the primary concerns over surround-sound radio broadcasting has been the lack of music content produced in 5.1, making it difficult if not impossible to fill the multichannel format in anything close to a full-time fashion.

Reports from one early-adopting station show that it is indeed possible, however.

WZLX(FM), a Boston classic rocker, recently began surround broadcasting on their HD Radio service — using the MPEG Surround format — and worked with Telos Systems (which represents MPEG Surround proponents Fraunhofer IIS in the United States) to fill the station's music library with surround content. I recently spoke with Telos President Steve Church about the challenges of such a process.

Church reported that they started by

taking everything they could find in the station's current playlist that had been released in surround remixes on DVD-Audio and multichannel SACDs. Among these were classic rock staples Steely Dan/Donald Fagen, Eagles, REM, Moody Blues, The Doors, Alice Cooper, Blue Oyster Cult, Eric Clapton, David Bowie, Yes, Talking Heads, Foreigner, Dire Straits, Pink Floyd, Santana, Queen, The Who, Deep Purple and Fleetwood Mac. This accounted for about 25 percent of the station's high-rotation material in true surround.

This content was then ingested into the station's content management system, a Broadcast Electronics AudioVault. But the process didn't stop there. The station wanted to utilize the unique capability of the MPEG Surround system to transmit surround content to surround listeners without compromising the stereo/mono content to everyone else.

So as an additional step in the content ingest process, the station's production team either synchronized the "artistic" mix from the original stereo release with

the surround tracks, or they downmixed the surround version to create a stereo mix. This was decided on a case-by-case basis. They found that some songs exhibited speed variations between stereo and surround mixes, making them difficult to synchronize. While time-shifting could have been applied to these cuts, they opted to simply downmix the surround to produce the stereo version in these cases.

So far the station reports that they have received no complaints from listeners about the downmixed cuts, and some at the station feel that these songs may actually sound a bit better than the original CD versions since they came from higher-resolution disks.

But what about the other 75 percent of the station's playlist? For much of this content, the station looked to third-party "upmixers," who take stereo material (without access to original multitrack recordings) and creatively remix it to a dis-

## The Big Picture

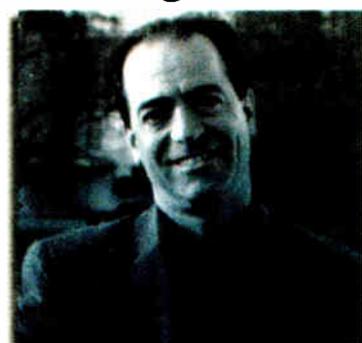


Photo: Gary Hayes, BBC

by Skip Pizzi

vehicle, and was surprised how much easier and interesting it was to hear all the voices coming from very clearly distinguishable and consistent locations around me, while seated anywhere in the car.

So while one might think that surround content is all about the music (or the spots), announcers' voices and other continuity can also be effectively presented in surround, and it can provide a big improvement over stereo or mono. One can imagine how radio sports broadcasts might also benefit from surround-sound presentation.

For now, however, music is the primary attractor for surround on HD Radio. Church believes that WZLX is a great station to promote the benefits of surround, given that it is a mainstream station in a

**Surround broadcasting could add a decade or more to the lifespan of classic rock, giving it a new edge in 5.1.**

crete 5.1 output, which can then be encoded to any surround distribution format.

One such producer is a company called Penteo ([www.penteosurround.com](http://www.penteosurround.com)), which uses upmixing technology developed by the company's founder, John Wheeler. It is an off-line, file-based process with a number of parameters that Wheeler manually adjusts for each music piece.

The result often approaches the quality of a true surround mix or remix. I've heard some examples of Penteo-processed songs on DVD-V (Dolby Digital-encoded), and they are quite impressive.

### Getting it on air

At WZLX, all surround content is stored on an AudioVault system in discrete eight-channel form (six channels for the 5.1 surround mix, and two for the synchronized original or downmixed stereo mix). During playback, these are delivered via IP audio over Ethernet to an Axia Element console that mixes and routes the surround and stereo feeds independently.

The console also automatically upmixes any stereo-only material it encounters to surround using a simple copy of the left and right channels to the left surround and right surround channels, respectively. It is also set to downmix any surround-only material it might find to stereo. Studio microphone sources can be individually panned anywhere within the surround and stereo fields.

Regarding the latter point, I heard such an arrangement on a morning zoo-type program with multiple hosts and interview guests over HD Radio via an MPEG Surround prototype receiver in a demo

major market — which also happens to be the home of several major consumer audio manufacturers.

He also thinks that just as the improved fidelity of stereo FM gave the oldies format a successful two-decade run after it had faded on AM, surround broadcasting could add a decade or more to the lifespan of classic rock, allowing listeners to hear familiar material, but giving it a new edge in 5.1 presentation.

Of course the particular format of a station will have impact on how much surround content is available without resorting to upmixing. Classic rock, classical and some other top 40-type formats will likely have an easier time than others in finding surround content.

Nevertheless, it is becoming clear that upmixes need not necessarily be considered second-class citizens in this regard.

Meanwhile, record companies might take note, and begin to release more current and catalog content in surround. While DVD-A and SACD formats have languished, new high-resolution HD-DVD and Blu-ray disks can provide even better vehicles for distribution of such content — with or without accompanying video.

Finally it must be acknowledged that very few listeners will appreciate all this effort at any station for some time to come, and they will probably always be a minority of the audience. Thus a broadcaster should ensure that nothing in this process degrades the analog FM or HD Radio stereo service, and WZLX's owners (CBS Radio) and management were just so concerned.

See WZLX, page 43 ►

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# ◆ NEWS WATCH ◆

## News Roundup

**MPEG SURROUND ADDITION:** Philips, Coding Technologies and Linear Acoustic announced a professional broadcasting hardware/software system based on MPEG Surround. "Buried Data" will be part of the MPEG Surround ISO standard. The proponents say it will serve remote event locations with multi-channel audio production facilities such as sports venues or concert halls. Linear Acoustic offers the technology in its audio processing products.

**HD2 IN 100 MARKETS:** The HD Digital Radio Alliance has filled in 15 more markets with HD2 channels, bringing the number of the largest markets with at least one multicast station to 100. Dan Mason, recently returned to CBS Radio as president/CEO, said the majority of the U.S. population still tunes in to radio every day and called the news a significant step for radio's future. However a poll from Jacobs Media indicates that while awareness and knowledge of HD Radio are much improved, significant barriers to buying an HD Radio receiver remain.

**AUSTRALIA MOVES ON DAB+:** In 2005, RW reported that Australia chose Eureka-147 as its digital radio technology, seeing digital radio as a supplement to analog rather than a replacement. Now, the Australian Parliament has passed legislation allowing for DAB+ digital radio services to roll out in the state capitals by Jan. 1, 2009. Australia plans to begin its rollout in major markets such as Sydney, Melbourne and Perth.

**AMERICA'S EMERGENCY NETWORK:** Former National Hurricane Center Director Max Mayfield and CBS News/WFOR(TV), Miami Hurricane Analyst Bryan Norcross are working with Global Security Systems to create what they say is a nationwide emergency alerting and communication system. Components include a Web site for the public containing video and bulletins issued by emergency management offices and other government agencies, and a TV channel carrying new conferences and other feeds. Norcross plans to have "America's Emergency Network" operational on the Internet later this year, with AEN(TV) on the air in early 2008. Using AlertFM from Global Security Systems, messages can be sent via FM subcarrier to a community or targeted to neighborhoods or individuals.

## WZLX

► Continued from page 42  
Nevertheless, the process has moved forward there, and as receiver hardware becomes available, listeners in Boston will have at least one source of great surround content, 24x7.

We can only hope that this trend will grow, and we'd like to know if it does. Let RW know if your station is broadcasting surround content so we can share your news in this area as well.

Skip Pizzi is contributing editor of Radio World.

Comment on this or any article via e-mail to radioworld@imaspub.com. ■

**BRIDGE RATINGS** says more radio listeners are getting information from their cell phones and less from their radios. The research company says 70 percent of the U.S. population now owns at least one cell phone. Text messaging dominates as the preferred cell phone service, followed by traffic reports and news/sports updates, "which has shown significant growth in the last 12 months." While audio streaming through cell phones is preferred by only 8 percent, Bridge found, 25 percent say they would really like to use their cell phones to time-shift on-demand radio content and 30 percent said listening to some form of radio content on their phones is

a "service of interest."

**CLEAR CHANNEL** introduced customized cell phone applications. Listeners of several stations in New York City can now send text messages into the studio, participate in contests, receive an alert before their favorite song plays, make requests and dedications, and view the last 10 songs played on participating stations. The initiative kicked off with these New York FMs: WHTZ, WAXQ, WKTU, WWPR and WLTW.

**KUVO(FM)** in Denver has begun broadcasting in Neural-THX Surround. The arrangement provides jazz fans with

1,500 titles encoded with the Neural-THX Surround technology, according to Neural Audio, which has partnered with THX to collaborate on surround initiatives for broadcast and other markets. The Neural-THX Surround Sound Library includes some 16,000 tracks in various musical genres, originally mixed in 5.1 or 7.1 surround sound. Neural Audio said it has worked to make the tracks available for broadcast over a standard stereo infrastructure using the Neural-THX Surround downmix technology. The library can be integrated into a digital audio storage and automation system, with relevant ID tag information, according to the company.

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## Web Opponents Bicker & Dicker

by Craig Johnston

When you're talking about online music royalties, the latest word — whatever that word happens to be at the moment — is unlikely to be the last.

A March 2 ruling by the Copyright Royalty Board set rates for Web music at a level many Webcasters called ruinous. Worse, retroactive payments from January 2006 initially were made due this May 15.

Roughly speaking, the new rates, which escalate through 2010, represented a 300-percent increase for large Webcasters and as much as a 1,200-percent increase for small Webcasters.

Since that time, Internet radio has proven that it is truly a communications medium, rallying listeners to its defense.

### Influx

"We received over a thousand letters and e-mails this month," Christine Hanson, spokeswoman for U.S. Rep. Jay Inslee, D-Wash., said in April. Other legislators reported a similar influx of constituent contact imploring them to rescue

Webcasters.

Grass-roots supporters were not the only ones who weighed in. NAB focused attention to the matter of Internet radio play, as did other industry groups, notably NPR. The new music rates lumped public radio in with commercial Webcasters, which public radio advocates say traditionally is not done.

"Since 1976, Section 118 [of the Copyright Act] has recognized that public radio has a very different mission from commercial media and cannot pay commercial-level royalty rates," said NPR spokeswoman Andi Sporkin.

The first Capitol Hill salvo resulting from all this came from Inslee and GOP colleague Rep. Don Manzullo of Illinois in the form of their Internet Radio



Equality Act, which would vacate the CRB's March 2 decision and apply a transition rate of 7.5 percent of a Webcaster's revenue through 2010.

A similar bill was introduced in the Senate by Ron Wyden, D-Ore., and Sam Brownback, R-Kan. An impressive list of co-sponsors signed on to each bill.

But Internet radio is not homeland security; Webcasters knew the slow march of legislation was not likely to produce results before the May 15 due date for retroactive payments. A two-month reprieve arrived on May Day from CRB, which moved the retroactive payment date to July 15.

### Ludicrous

While much of the public hue and cry has been in support of Webcasters, higher copyright royalty rates have their supporters, namely music performers and the record labels, who are recipients of the royalty payments.

They are represented by SoundExchange, the organization authorized to collect the royalties from Webcasters and distribute them to those performers and labels. It argues that while much of the public face of the "save Internet radio" effort has been that of small, independent Webcasters, the industry is dominated by large corporations.

"The idea that this bill would help small Webcasters or artists is ludicrous since less than 2 percent of all royalty payments in 2006 came from small Webcasters," said John Simson, executive director of SoundExchange. "The true beneficiaries are the mega-multiplex services like AOL, Yahoo!, Microsoft and Clear Channel, which will benefit from rates substantially lower than those set by the Librarian of Congress in 2002."

SoundExchange said its research shows 82 percent of music play royalties were paid by the 10 largest Webcasters.

SoundExchange and other supporters of the rates as set by CRB are putting their own "every-man" face on their side of the issue in the form of the performing artists themselves. They have also pointed to large financial supporters of Internet radio's SaveNetRadio lobbying organization.

"The fact that they would advance the profit-grinding agenda of big Webcasters without regard to the artists they are hurting speaks to SaveNetRadio's true mission and evident hypocrisy," stated Rebecca Greenberg, national

director of the Recording Artists' Coalition. "If SaveNetRadio really cared about artists, they wouldn't be fronting for the big Webcasters like this."

### 'Good faith'

Wrangling continued in late May.

The NAB Radio Board said the new rates will "cause significant harm to broadcasters that stream over the Internet" and called for legislation that vacates the CRB decision and establishes an interim royalty rate structure.

To separate small Webcasters from the corporate giants, SoundExchange in late May made a new offer: It would extend through 2010 the small Webcaster rates set for the previous royalty period by the Small Webcaster Settlement Act (SWSA), with some minor modifications.

"Today's offer comes as a direct response to a request from the House Judiciary Subcommittee on Courts, the Internet and Intellectual Property to 'initiate good faith private negotiations with small commercial and noncommercial Webcasters with the shared goal of ensuring their continued operations and viability,'" the organization stated.

"Although the rates revised by the CRB are fair and based on the value of music in the marketplace, there's a sense in the music community and in Congress that small Webcasters need more time to develop their businesses," Simson said in the announcement.

"Artists and labels are offering a below-market rate to subsidize small Webcasters because Congress has made it clear that this is a policy it desires to advance, at least for the next few years. We look at it as artists and labels doing their part to help small operators get a stronger foothold."

### Next round

If the past portends the future, Webcasters awaiting congressional action on their music royalty rates might want to note that legislators were involved at the "problem's" inception and at every step since.

The Digital Performance Right in Sound Recordings Act (DPRA) and the Digital Millennium Copyright Act (DMCA), passed in the 1990s, differentiated digital music play, including Internet radio, from terrestrial radio music play, which has long been exempt from royalty payments to artists and recording companies. Those acts placed rate determination in the hands of the Librarian of Congress.

After the first rate setting in 2002, Congress revised the system by empaneling a Copyright Royalty Board of three judges. It was this CRB that kicked off the latest firestorm of protest.

Congress may decide this year to set rates that Webcasters deem more affordable and re-write the rules again. But the next rate-setting period, beginning in 2011, may once more find one side or the other seeking congressional relief.

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# Is Your Database Safe? Really?

"Help! I think I may have just e-mailed the entire university database to a colleague by mistake!"

Ack.

"I meant to send just a portion of the names, but I think I cut and pasted the tables incorrectly. It's possible that I sent out all 25,000 student names with their social security numbers! What should we do?"

A friend of mine who works in the I.T. department at a state university recently related this story. Apparently everyone in the administration department had unlimited database access.

Fortunately, while radio stations don't typically ask for social security numbers via Web sites, we are often collecting personal information — and I'm not convinced that most stations and companies guard this data closely enough.

## Less is more

Let's begin by considering what we collect.

Most stations collect data via their Web sites so they can market to listeners. There is a widespread feeling that the more information we obtain, the better — that the more we know about a person, the more with we can do with it.

If we had full-time database specialists at radio stations who would work with this information regularly, I could see value in this proposition; however, I've yet to discover this situation at any radio

station in America.

At best, an Internet content person, marketing director or program director works with the station membership database and typically that's only when they're sending something out to the

are asked to join your database (listener club), the greater the response rate. When you decide to collect more than a few items, users will stop filling out the form. After all, "ID theft" has become a household word and normally even the most



© Tatiana Popova

database members. Without a full-time employee tasked to work effectively with collected data, radio stations are much better off collecting less information.

In fact, it has been proven that the less information you require of listeners who

careless user is at least subconsciously aware of the problem.

## What should you collect?

You need a first and last name. You need an e-mail address. You may need one phone number so that you can call people when they win contests. Any other information you collect should be debated by your senior staff.

Many managers feel they must collect a home address. Why? So that they can add this person to a mailing list to be used during marketing campaigns. However, I see two negatives here.

One is that if you're buying a household list targeted by age and Zip code, the odds are excellent that you'll hit this recipient anyway. The other is that many radio stations don't do direct mail at all. If this is the case, there is simply no need for an address.

Many stations will ask for multiple phone numbers. Instead of doing this, why not ask for one number and let the end user decide which number to give you? You can set up a pull-down menu that accepts home, office or mobile phone. If you're going for just one, ask for the mobile.

For young-end stations, you should include a check box where users can opt in to receive text message alerts from you. You'll be surprised at how many young users will opt in to receive text messages if you give them a reason to — like free concert tickets.

## In the open

Aside from your Web site, where else do you collect and store data?

Think carefully about this, because it might not be obvious. You probably collect information from contest winners at the front desk; on the phone in the control room; and perhaps at events.

Since the feds require us to report contest winnings, we are collecting social security numbers at these points. I urge you to make sure that these social security numbers are not being entered into your listener database. It's one thing for them to be housed with your business office, where leakage is a lot less likely,

## Promo Power



by Mark Lapidus

but another to put them into a central, online system.

Another tip is to make sure your staff members aren't leaving these contest sheets — complete with social security numbers — out in the open. They should be collected often and delivered to your business office for secure storage.

Finally, to prevent database scandal on a mass scale, make sure an extremely limited number of senior management people have access. Interns and part-timers should never be able to access your database unless you are standing over them while they work.

**Without a full-time employee tasked to work effectively with collected data, radio stations are much better off collecting less information.**

Kids today are very savvy about exporting features and can steal your data in the blink of an eye. Whether they do it more for a lark or to give a competitor, you lose no matter what they do with the data.

Institute a written confidentiality policy. The statement is to be read and signed by any employee accessing your database. Make the penalty terms strong enough to prevent people from thinking casually about your data property.

Do not allow anyone to export and e-mail your database without friendly supervision; besides, it's handy to have a witness present if questions later arise about impropriety. Also, their guardianship may prevent those damaging, irreversible blunders.

So take heed, my friends. These unpleasant scenarios can become all too real. Might as well protect yourself from someone walking into your office and saying, "Um, about that incredibly personalized listener database we're so proud of ... it was an accident, honest!"

The author is president of Lapidus Media. E-mail him at [mlapidas@cox.net](mailto:mlapidas@cox.net).

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# A Lost Art: Critiquing Your Air Talent

by Gary Begin

As a consultant, I've found that the process of managing creative people effectively often differs from that of managing people in task-oriented positions.

People hired to perform physical labor or clerical services need only understand the specific tasks at hand and carry them out competently. Creative types such as radio personalities must place a part of themselves at risk every time they open the microphone in order to succeed.

Successful air talent use personal experience and perspective as a stimulus for their creative process. This blending of the person into the profession makes instructing on-air performance a complex process.

Air personalities acknowledge and respect managers who are honest, fair and consistent. To strike the greatest creative potential from your talent, you must improve the quality of the creative support environment.

Here are examples of how to coach an effective air check session, enhancing the air talent performance at your radio station.

**Dos and Don'ts** — Numerous personalities are managed exclusively by a daily dose of *don'ts*: Don't talk too much. Don't dominate conversations with callers. Don't! Don't! Don't!

It's a wonder anyone stays in our business. While talent needs to understand boundaries, they require direction, what to do within those boundaries. Constantly give your air talent alternatives as to how something might be performed more effectively in the future.

**Disconnect the Air Talent from the Performance** — Focus on behavior you wish to change. If you want the personality to better edit themselves, address only



Belligerent statements only lead to unnecessary conflict.

the process of editing. Stay clear of language and issues that can be interpreted as a personal attack by the air talent.

**It's Never Personal** — Personalities behave the way they do on the air because they believe it's the right thing to do at the time. They don't spend time contemplating on-air antics guaranteed to annoy you. When approaching a problem, ask questions *before* making accusations.

For example: "I listened to you put a caller on the air this afternoon. Since we don't place callers on-air at this station, I'm curious; why did that happen?"

By opening the conversation with a question, you allow the air talent to plead his/her case *before* they are condemned. You may in fact find out the reason for doing the unexpected made sense and allows for modification of station policy.

**Concentrate on the Future, Not the**

**Past** — Once a corrective point has been acknowledged by management and received by the air talent, move on. Don't belabor corrective issues.

## Air personalities acknowledge and respect managers who are honest, fair and consistent.

The primary goal of every critique is to motivate and inspire future performance. At the end of every meeting, spend time discussing areas of professional growth and development. Brainstorm ideas for future shows and station promotions.

**Become Assertive Instead of Belligerent** — By giving thought to how to

speak with your air talent, you can make the difference between getting it said and procuring it on the air. Belligerent statements only lead to unnecessary conflict.

"Why did your bit go over five minutes this morning at 7:20, you idiot?" Such an attitude only makes people defensive. You can be assertive without the name calling: "Were you aware the 7:20 bit was excessively long this morning?"

**Never Lie** — Once a staff member has discovered you've lied, the information spreads like herpes.

You'll lose their confidence and find it difficult if not impossible to retrieve it. Credibility is the key to effective management. When asked a question you're unable to answer, for whatever reason, don't lie. Better to disclose that fact than manufacture a fabrication.

**Invite Inquiries** — Open communication is the source to understanding why things occur the way they do. This allows you to build safety nets that can catch the occasional human error before it can do any harm.

When your staff trusts your judgment and is comfortable allowing you to

uncover their authentic nature, you will have succeeded in building a sound, supportive creative environment.

**Gary Begin**, with partner Steve Bianchi, is a radio consultant, researcher and strategist with Identity Programming. Contact him through his Web site [www.identityprogramming.com](http://www.identityprogramming.com) or at [gbegin@identityprogramming.com](mailto:gbegin@identityprogramming.com).

## Helping Kids Is a Bear

Police and fire officials from 30 departments in southeastern Wisconsin took part in WTMJ(AM)'s signature community service event, the annual Teddy Bear Patrol.

The Milwaukee news station has been doing this event for 15 years; it was sponsored by Metropolitan Cadillac and State Farm Insurance.



Jonathan Green's Teddy Bear Patrol campaign distributes teddy bears to police and fire officials for use in comforting children in crisis situations. The Journal Broadcast Group station has given some 70,000 bears since 1993; Green, the afternoon drive host, presented 6,000 teddy bears this year, collected from listeners as well as 77 schools that held their own collection drives.

Shown: Students from Grace Lutheran School in Menomonee Falls pose with Green and the "Good Neigh-Bear" from State Farm Insurance.

STATION SERVICES

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This allows stations to incorporate a range of online stations into their Web sites.

Formats include Radio Gold for each decade from the 1950s to 1990s, bluegrass, blues, "Body Slam Rock," calypso, Americana, island, classic country, rock and soul, classical, and Triple A rock. The 20 new formats are in addition to "Beach Music," "Southern Fried Rock" and "eStandards," which the company launched earlier.

American Media Services launched its Internet business to sell turnkey streaming solutions to broadcasters.

Contact the company at (847) 540-5410 or visit [www.americamediaservices.com](http://www.americamediaservices.com).

## 'Business Bytes' Is By Bailey

Envision Radio Networks launched "Business Bytes by Barbara Bailey," a daily 60-second vignette available on a barter basis.

The program promises to provide advice for employees in a challenging job market and management tips for business owners.

Bailey has been a trainer, consultant and college-level educator; she wrote the new book "Women in Conflict: What Are We Doing to Each Other."

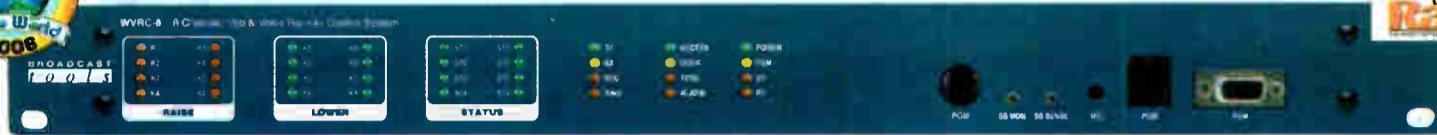
Separately, Envision and TalkUSA Radio announced the launch of "The Leslie Marshall Show." She has been a radio host for 19 years and appears as a commentator on national television programs including the Fox News Channel; her show is available for radio live via satellite weekdays 3 to 6 p.m. Eastern, or via delay for later broadcast.

Information is available at [www.envisionradio.com](http://www.envisionradio.com) or e-mail [Rebecca Pixley](mailto:Rebecca.Pixley@envisionradio.com) at [rebeccap@envisionradio.com](mailto:rebeccap@envisionradio.com).



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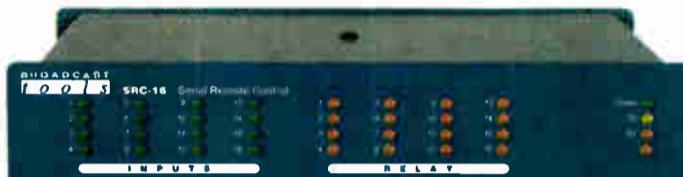
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GUEST COMMENTARY

# Schools & Radio: Heart And Soul of a Community

by Bruce Anderson

Mark Lapidus, I'd like to thank you for your insightful articles in Radio World. More than often, I agree with your wisdom; occasionally I don't. But you write from what appears to be a wealth of experience, knowledge and — most enduringly important — logic.

I would like to comment on your essay on helping high schools ("How to Help High Schools," April 25).

Some might consider me a bit old-fashioned, but I am a back-to-basics guy. The schools have always, and should continue to be, the heart of a community. I say this as a parent, a taxpayer and a school board

realizes these kids are going to grow up to buy cars from him someday.

Program content covers everything from soup to nuts: School plays, awards, sports events and scores, new teachers, foreign exchange students, even a preview of the upcoming issue of the school paper. The kids have their own Flash recorders and copies of Adobe Audition to record and edit interviews.

Having a very good rapport with the State Patrol, we got one young reporter a ride-along. That turned into a three-part series on the issues revolving around teenage driving. Oftentimes the programs have turned into award-winners at the state broadcasters' level.

**When it comes to being recognized  
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member. Where is there a better venue for the social and cultural aspects of a community to come together?

By the same token, your local radio station (with due respect to the print media) is the communication foundation of a community. We do what we do best, and that's inform our public, since you can be entertained ad nauseam by your iPod, computer, television, cell phone, XM ...

What a nifty marriage, two wonderful community entities!

## Generation next

You mentioned high schoolers hosting an hour-long weekly program. Neat idea, but old-fashioned.

We brought it into the 21st century by honing it down to 90 seconds — what is the attention span of today's youth? — by letting the kids receive class credit for it, and by giving them a foot in the door for oftentimes paid internships. And it makes us money. Whoa. Neat concept!

One program ("A Peek at Durango High School") is recorded Thursday afternoons here at our studio by a young gal who is planning on going on into journalism in college. Durango High is a medium-size institution, yet the largest secondary school in Southwest Colorado. It airs Saturday mornings at 9:15.

The other show is from a nearby rural community's school, Bayfield High ("The Wolverine Update"). It's on Saturdays at 8:15 (rural folk tend to get up earlier than we city dwellers). It's also on our three Durango stations (one AC, one country, one sports talk).

The two young ladies who record it often come "to town" to do errands and stop by our studios (Bayfield's not exactly the retail capital of the state). But they simply MP3 it to us from home if they can't make it on account of the weather or because of a sports commitment. Such wonderful technology we have.

The programs have been sold out for years to a particular car dealership. He wants to be connected with the community and show support for youth. And he also

Labor-intensive? Not really. I look at us as the idea factory, then the facilitator between two (or more) parties who have a common interest: The State Patrol wants to get the word out (now, prom time, like you said) about drinking and driving. It needs to go to the students. Coming from their peers is most effective. We simply coordinate the information from this wonderful collaboration, then disseminate it.

Give a kid an interesting, worthwhile — and ego-fulfilling, like being on the radio — mission, and he or she will become engaged in it. And maybe learn from it.

As for the younger demographics, we have our annual "Creative Christmas Contest." Each year third-, fourth- and fifth-grade students from the area are invited to participate. The theme changes yearly, from "What Present Would You Like to Most Give for the Holidays?" to "Your Most Memorable Holiday" to "Wreaths" to "Snowflakes."

Classes are invited to construct a rendition of the topic (within reason, of course), and write a narrative about the theme. Out of the hundreds of entries we (a panel of judges, including a columnist from the local newspaper) pick a winner. The student receives a gift certificate, his/her class receives a pizza party and a \$500 check, and everybody's happy (including our sponsors). The top five students get to read their entries on the air.

Last year's winner opted as a class to spend its \$500 on a dozen trees, which they planted as a gift to future generations at their school. Tugs at the heartstrings; but more important, it builds community.

Even though we're an unrated market, we have Clear Channel and American General Media nipping at our competitive heels. But when it comes to being recognized for serving our public, we can't be touched. It's no extra work. It's just intelligent, imaginative use of our resources.

Keep up the great work, Mark!

Bruce Anderson is director of engineering/public affairs and public service director for Four Corners Broadcasting/West Slope Communications, Durango, Colo.

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## ◆ READER'S FORUM ◆

### Who's Looking Out for AM?

Larry Langford's May 9 article really hits the nail on the head ("What's Behind AM Receiver Performance?") and sadly points out that nothing will be done.

I like Larry, and I'm sure many others wrote not only the FCC but several of my elected representatives about the sorry state of AM receivers. I didn't even get the courtesy of a reply.

**Even the FCC has put its head in the sand and ignored AM quality issues. One could say it has abdicated responsibility by approving an IBOC system full of interference.**

— Dave Dzurick

One of the proposals I made was that any radio receiver with a price over \$29 had to be AM/FM with a minimum audio bandwidth of 10 kHz. No response from either of the two I wrote.

I also made a similar proposal in the early 1990s that included AM stereo, similar to the VHF/UHF bill of the early 1960s. Again, neither elected official could even be bothered to respond. The FCC's "let the marketplace decide" philosophy regarding AM stereo has resulted more in "let the marketplace collapse."

As Mr. Langford touches on, those who should be looking out for AM broadcasters and AM radio consumers are noticeably absent.

The NAB long ago quit being AM radio's champion. The NRSC seems to be more agenda-driven than quality-driven. The EIA and receiver manufacturers: too busy counting profits and cost-cut-

### Correction

An Armstrong user report in the May 9 Buyer's Guide for Transmitters included an author's statement implying that Broadcast Electronics AM transmitters do not have switching power supplies; in fact they do.

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ting. Congress and the House of Representatives: too busy getting re-elected and other politics.

Even the FCC has put its head in the sand and ignored AM quality issues. One could even say it has abdicated its responsibility by approving an IBOC system full of interference and controversy. Contrast this to the days when it had more technical hearings than one could count. Look up the hearing history for color TV approval, or even FM stereo, where the technical notes fill books.

**Even the FCC has put its head in the sand and ignored AM quality issues. One could say it has abdicated responsibility by approving an IBOC system full of interference.**

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Then when it came time to approve AM stereo it tossed AM under the bus and ran, and has been running ever since. Then just for good measure, toss in the Clear Channel engineering group that is determined to reduce the bandwidth of AM, regardless of how it decimates the audio product the consumer hears.

Anyone have an idea how AM broadcasters and consumers can get someone in Congress or the FCC to actually do their jobs and watch out for us? How can we motivate the manufacturers to design and implement a decent AM receiver chipset? As Larry points out, the chips have already been designed so the only cost is implementation, which should be minimal; what is the holdup?

And an even bigger question: Why are AM broadcasters and consumers so complacent about this whole topic? What's it going to take to get both sides fired up?

Dr. Dave Dzurick  
Tucson, Ariz.

### Conditional Access

Digital Radio Express recently announced the availability of conditional access for FMeXtra.

## Engineers Dissed Again

Among the top 30 young people in radio, none are engineers.

That, at least, is the implication of an announcement from Edison Media Research of its "30 Under 30."

The company markets itself as a source of strategic information to radio stations and other media but committed a stumble when it conducted a six-month nationwide search for "30 talents ages 30 and younger in broadcasting."

The list includes operations managers, program directors, consultants, music directors, a play-by-play announcer, an executive producer and a managing partner.

No technical titles.

Edison is not alone in having this blind spot. RW has taken other organizations to task for dissing technical people; for instance we complained that the group Mentoring and Inspiring Women in Radio issues an annual analysis of how women fare among the ranks of top industry execs: GMs, PDs and general sales managers. MIW does not mention technical management despite the critical role of technology in our industry's management and growth.

We know these groups are well intended, and we know each is focusing on its own industry niches; Edison's list is heavy with air talent, for example, though it did not limit itself to that category when it called the winners "the most gifted 30 radio professionals under 30 years old"; and if the study is limited to air talent, call them the 30 top young air talents.

But industry opinion leaders do need to expand their definition of what it means to be "talent" or a "radio professional." This is not just a trivial matter of semantics; it reveals a mindset with ramifications.

For instance, imagine that a radio company wants to develop its next generation of employees. It sends a manager to a job fair at a campus to pitch the company to promising young people. Now conjure up the words this recruiter will use to describe the opportunities of working for the station.

Would the word "engineering" pass their lips? Would the recruiter even recognize a potential young engineering star if he or she walked by?

Or try this test. Ask your company's top executive to name your most promising young employees. Does the list include anyone technical?

Industry opinion leaders must reach out to the technical community and recognize engineers as one of the legs holding up their industry chair.

Edison Media and MIW can start by adding technical positions to their next reports. If they don't know of any talented young engineers, they can read the pages of RW, where we have profiled numerous such professionals of both sexes. If they received no such nominations, their invitations aren't being sent to the right people. They can pick up the phone and call an SBE chapter. They can ask a radio group's director of engineering.

Ironically, Edison Media Research invited its 30 talented young finalists to take part in a seminar called "Radio Under Construction." We don't suggest they try building radio's future without engineers.

— RW

Conditional access is the ability to remotely enable receivers to a specific program channel. I understand that HD Radio is still trying to figure out how to do it.

FMeXtra is superior technology. It requires no change to the transmitter or antenna, and does not have digital hash on the adjacent channels. Norman Miller of Digital Radio Express told me that they are on the air in China, Norway, Italy, Brazil, Canada, Poland, Netherlands and Aruba, in addition to the U.S.

FMeXtra got a slow start because of the lack of receivers, but I understand that they are now available in quantity. We expect to use FMeXtra on one of our

World Radio Network stations in the near future.

Stanley Swanson  
Engineer  
World Radio Network  
Yuma, Ariz.

### Write to RW

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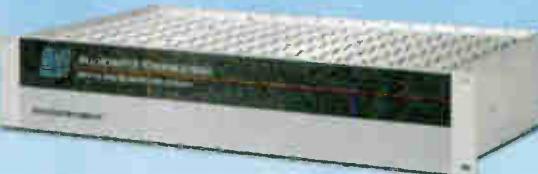
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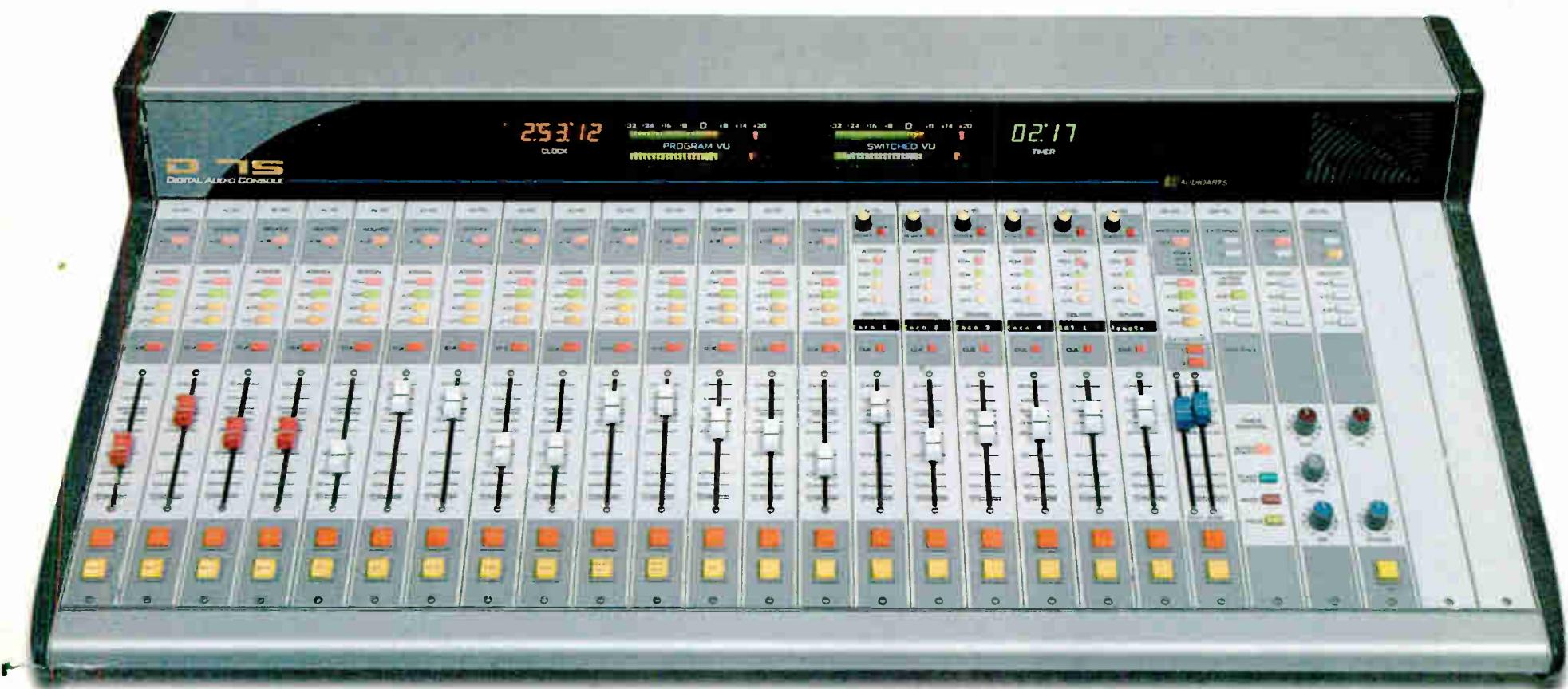
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