

AM 'Venom'

Marvin Walther says bandwidth reduction trashes AM — and listeners notice.

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Fad or Trend?

Early station experiences with podcasting.

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Radio World

\$2.50

The Newspaper for Radio Managers and Engineers

June 22, 2005



DIGITAL NEWS

Tuning With Multicasting Ahead

Datacasts Will Change How You Interact With Radio

by Leslie Stimson

The advent of multicasting and other datacasting possibilities doesn't affect only broadcasters. Receiver manufacturers as well as their component suppliers are grappling with how to design new radios and make it easy for consumers to access the promised new features of HD Radio and the RDS features of analog broadcasting.

These manufacturers want to make sure the consumer's first experience is a good one.

Some of the questions being bandied about: How will consumers tune to a supplemental station? How will the "seek" or "scan" functions change? How would stations let listeners know there are supplemental channels available, and how would those station designations appear on the faceplate of the radio?

Depending where their design/manufacturing cycles stand, receiver companies are in various stages of discussing or finalizing these and other design considerations as they prepare to go into production for stations that would ship to retailers this summer and fall.

Experts say features such as a "buy" button won't be in the market for another two years or so, for reasons less to do with design and more with business and regulatory issues.

FCC approval?

For now, manufacturers that are bringing out their first HD Radios are wrestling with the multicasting feature. Manufacturers contacted by Radio World hope the FCC permanently approves the option that a broadcaster may split its sig-

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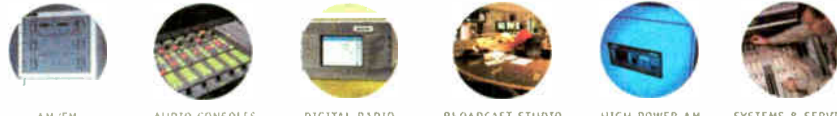


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◆ NEWSWATCH ◆

Dingell, Obey Push for CPB Probe

WASHINGTON Now it's the Democrats who want the Corporation for Public Broadcasting investigated.

Representatives John Dingell of Michigan and David Obey of Wisconsin, ranking minority members of the committees that control funding for public broadcasting, say they are concerned about news reports suggesting the CPB is making "personnel and funding decisions on the basis of political ideology."

The Washington Post reported the

lawmakers have written to CPB's inspector general asking for information about the recent reported activities of CPB Chairman Kenneth Tomlinson, a Republican.

Among the activities piquing the interest of Dingell and Obey: Tomlinson's reported hiring of a White House official to write the guidelines for CPB's newly established ombudsman's office; why CPB President Kathleen Cox was suddenly replaced by former FCC Media Bureau Chief Ken Ferree, a Republican who served under former Chairman Michael Powell; why Tomlinson, without his board's knowledge, reportedly hired a consultant to monitor the PBS program

"Now With Bill Moyers" for anti-Republican content; and whether Tomlinson was involved in obtaining funding for and PBS distribution of programming produced by The Wall Street Journal and conservative commentator Tucker Carlson.

Dingell and Obey say CPB, by statute, is prohibited from producing, scheduling or distributing programming and that it must act as a shield from political interference lest public confidence be undermined. Dingell and Obey pointed to what they said was CPB's own research that stated Americans believe public radio and television content is "objective and balanced."

Emmis Likely to Spin Off TV

INDIANAPOLIS Emmis may sell its 16 TV stations and focus on its radio holdings. The company has hired financial and legal advisers to help evaluate alternatives for the company's TV assets.

Emmis said the result of the process could be a decision to sell all or part of its television holdings. Emmis President/Chairman/CEO Jeff Smulyan said the company wants to lower its debt and put itself in a better position for growth.

"In order to reach their full potential, our television stations need to be aligned with a company that is larger and more singularly focused on the challenges of American television," said Smulyan.

NPR to CPB: Maintain Firewall Between Funding, Politics

WASHINGTON The recent changes within the Corporation of Public Broadcasting have not gone unnoticed within public radio. The NPR board has passed a resolution urging CPB to maintain its statutory and historical role to act as a "firewall between partisan politics and public broadcasting."

NPR board member and CEO Kevin Klose endorsed the resolution.

CPB has "dismissed its president and CEO under uncertain conditions ... (and) appointed two ombudsmen without consulting with the public broadcasting system, raising legitimate concerns of an institutionalized process for potential

See NEWSWATCH, page 3 ▶

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Auction Procedures Debated

by Randy J. Stine

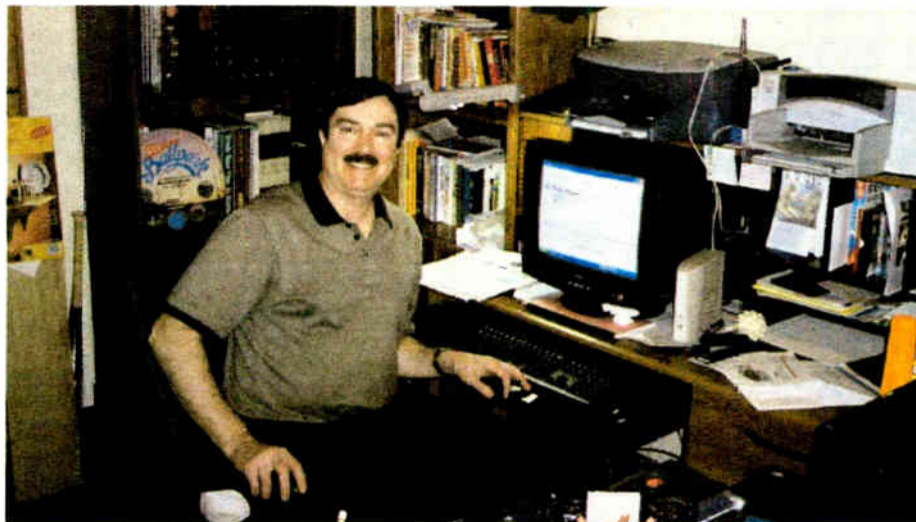
WASHINGTON Critics of the way the FCC awards FM construction permits say the spectrum auction process is not fair to smaller companies and doesn't do enough to boost ownership diversity.

Several groups think the process is sufficiently flawed to ask the commission to reconsider auction rules before the next sale of allotments in the FM broadcast service. Auction 62 is scheduled for November.

At press time, the commission said it is prepared to answer and reconsider changes.

The FCC's auction system was first used last fall when the commission awarded 258 FM CPs to 110 bidders and pumped \$147.8 million worth of net revenue into FCC coffers. Prior to that, the commission used a comparative hearing process in deciding licensing cases, which sometimes took years to resolve.

FM Auction 62 consists of 143 new FM allotments and 30 unsold FM CPs from last year's auction. It will be con-



Dale Ganske

ducted over the Internet with telephonic bidding available.

Bidding credits debated

High reserve prices and an unfair bidding credit program are a "significant

obstacle to many potential bidders," said Dale Ganske, president of L. Topaz Enterprises Inc. and a former radio station owner.

"The FCC's only objective is to maximize the dollars. That's why they went to this process," said Ganske, who successfully bid on a FM CP in Roscoe, S.D., last year.

Ganske says the commission's New Entrant Bidding Credit is particularly unfair, because it considers each bidder's current interest in radio properties

and gives no consideration to a bidder's financial condition.

The bidding credit includes a 35 percent credit to winning bidders who have no attributable interest in other mass media and a 25 percent credit to winning bidders who have attributable interest in no more than three mass-media properties — all regardless of financial need.

"You should be given credit based on your financial condition or need. That would level the field between small companies and larger groups," Ganske said.

Ganske argues those rules did not prevent a few former successful radio executives from receiving the credits and winning CPs in numerous markets in the previous auction.

"Randy Michaels does not need a bidding credit," Ganske said. Michaels is a former Clear Channel executive. His company, Radioactive LLC, bid successfully on 21 new CPs with net bids totaling more than \$8.5 million. The company qualified for a 35 percent bidding credit.

Mark Van Bergh, a Washington-based communications attorney, said he doesn't believe the procedure necessarily favored larger companies. However, the high prices for channels did.

"Prices went way, way beyond what anyone had envisioned. Small public and commercial broadcasters just don't

See AUCTIONS, page 8 ▶

NEWSWATCH

▶ NEWSWATCH, continued from page 2
interference in content," the NPR board stated in its non-binding resolution.

"Such a process within a funding agency is fundamentally inconsistent with the principles of ombudsmen in reference to news organizations."

The NPR board resolved, "CPB should follow statutory requirements and do nothing to diminish the firewall between the federal funds appropriated by the Congress and the public broadcast programming it funds; and CPB should follow statutory requirements and refrain from interfering in constitutionally protected content decisions."

Before making changes in funding priorities, stated the board, CPB should consult the public radio system about its priorities "and defer to the reasonable and legitimate choices of broadcast professionals to build services of value within the local communities they serve."

NPR sent a copy of the document to CPB, a spokeswoman for the network confirmed.

Managers Buy Out APT With VC Backing

Audio compression company APT has been sold in a management buyout and has acquired an injection of new capital. Terms were not disclosed.

Audio Processing Technology, based in Northern Ireland, says it secured equity and debt funding to complete the buy from former owner Solid State Logic. Equity was from two venture capital companies as well as Managing Director Noel McKenna and Commercial Director Jon McClintock, who had begun buyout negotiations in January. Bank of

Ireland provided the debt funding.

"The deal will enable the company to boost its sales and marketing activities and to continue to fund research into new technologies that will benefit its customer base," it stated in the announcement.

APT is the developer of the apt-X algorithm. It makes codecs and also licenses its algorithm to others; it says one of its growth businesses is licensing apt-X to the consumer industry for use in wireless headphones and wireless rear speakers for home theatres.

McKenna said, "We will also be tackling multichannel applications for embedded audio into video and increasing our licensing portfolio for the professional and consumer audio markets. These areas have huge potential." He said APT plans to add 10 employees in coming months.

CPB's Tomlinson to Dems: 'Bring It On'

WASHINGTON CPB Chairman Kenneth Tomlinson replied to calls for an investigation of CPB. In a statement, Tomlinson said: "I welcome the call by Congressmen Dingell and Obey for the inspector general to examine issues related to my efforts to encourage public broadcasters to take more seriously the need that our current affairs line-up reflect objectivity and balance."

He continued: "I look forward to working with the inspector general and with the Congress to clear up with finality distortions in press reports and elsewhere about our work to bring more diversity to public broadcasting. There would be no debate on this issue if more programs on public television reflected the high journalistic standards of the 'NewsHour With Jim Lehrer.'"



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WWV and the Minutiae of Time

In this issue Radio World offers a summertime overview of new products as introduced at the recent NAB2005 convention.

Our NAB2005 coverage over the past half-dozen issues has included session previews, a special product preview sup-

mentioned a publication that sounded intriguing: "NIST Time and Frequency Services" by Michael A. Lombardi, published by the National Institute of Standards and Technology, part of the U.S. Department of Commerce. He kindly sent me a copy.

you don't need to be an engineer to enjoy it. I don't keep every book that I mention; but I'm taking this little one home and reading it front to back.

★ ★ ★

"A statistical and prose history of the commercial radio industry covering the last 30 years."

That's the ambitious goal of Jim Duncan, former president of Duncan's American Radio, for a planned three-part series covering what he considers the most important era in radio's history. Volume One in "An American Radio Trilogy, 1975 to 2004" is subtitled "The Markets."

Why analyze this particular slice of time?

"There were so many trends and cross currents during these 30 years," Duncan writes.

"The shift in audience from AM to FM. The rise of the Wall Street supported entrepreneur and the corresponding decline in the family radio company. Radio's development from a secondary advertising medium into a huge \$20 billion-per-year industry. The deregulation of radio which has forever changed the industry. Finally, the events of the early 2000s, which may possibly have marked the beginning of terrestrial commercial radio's decline.

"I believe that it is within the realm of possibility that traditional radio saw a long-term peak in the year 2000," he states. "This 'trilogy' will investigate that possibility."

Volume One, which costs \$195, is almost entirely data. It's a big thumper of a paperback, wider than it is tall, and spiral-bound. It provides stats about commercial radio in about 150 radio markets, letting the reader compare and contrast historical events in each market.

Here you'll find 12+ Metro Share for each station, 12+ Cume Ratings, market revenue, revenue changes, population, retail sales information, notable

From the Editor



Paul J. McLane

call-sign moves, lists of highest-billing stations and so on. If you want to know the top-billing stations in Akron in 1985, or are interested in why Charleston, S.C., is a "difficult" radio market, you'll enjoy this.

On its own, the volume is likely to be used mostly as a tool for researchers and a trove for real radio geeks. Duncan admits it's "a little dry."

Volume Two is due in September, Volume Three next year; and those will be about half the price.

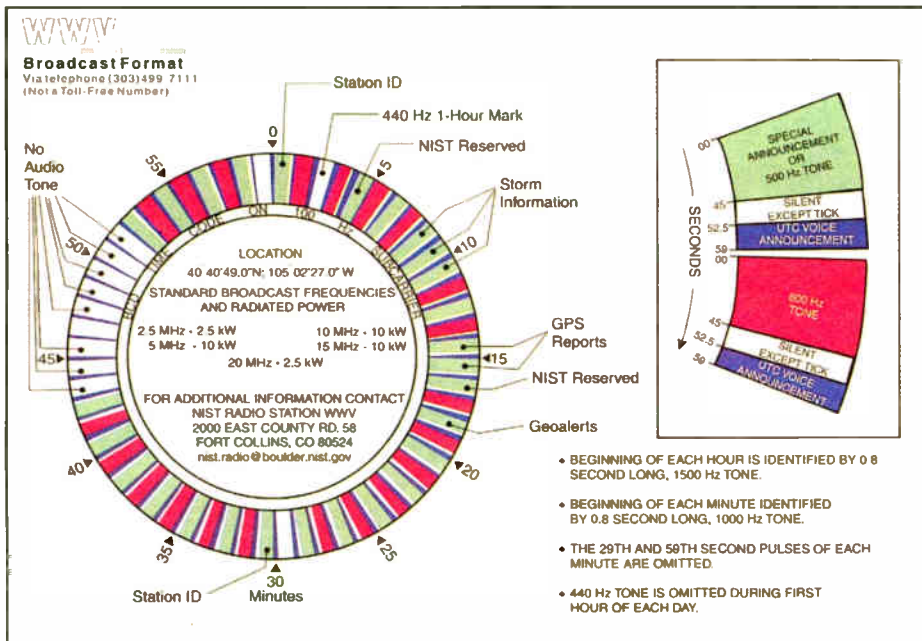
"Where the first volume keys on individual market history, Volume Two will focus on national trends in revenue, audience and formats," Duncan told me in an e-mail.

"Volume Three will be all words, for a change. It will be a prose analysis of what happened since 1975 and what were the causes. Then I will offer my thoughts on the future of all types of radio, but especially terrestrial."

Duncan is in a position to make such assessments after many years as a radio analyst, historian and broadcaster board member. He also holds several beliefs that he states up front: that listeners are going away; that current radio financial and programming models are broken; that a real growth spurt in radio revenue is unlikely in the next decade; and that radio has maltreated its listeners and advertisers.

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Got a book or publication you think readers would enjoy knowing about? Tell me at radioworld@imaspub.com.



The WWV Broadcast Format From NIST Time and Frequency Services

plement, convention photos, news coverage and our "Cool Stuff" Awards. Such in-depth coverage is appropriate given the importance of the spring show to industry decision makers and equipment buyers; we're pleased to have the space and the editorial staff to provide such a comprehensive overview.

★ ★ ★

I haven't paused to look onto my bookshelf in a while. Here are two publications that have come across my desk.

Radio World reader Richard A. Porter in Wood Dale, Ill., saw an article here last year about WWV and called to point out a typo in the story. In the course of our phone conversation, he

This booklet will appeal to anyone who has ever wondered how NIST provides time and frequency standards, how the nation's clocks are synchronized, what WWV or WWVH is, and how computers are time-synched. The author delves into atomic time, Coordinated Universal Time, leap seconds, receiving equipment, HF propagation and Internet Time Service among many topics.

It is a 72-page pamphlet with color illustrations that was put out via the Government Printing Office and most recently revised in 2001. The GPO Web site now lists it as out of print; but I found a used copy listed online via Amazon.com for about \$15. The ISBN is 0-16-051058-9.

There's good technical content; but



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Receivers

► Continued from page 3

nal into multiple streams. Stations doing so already have sought experimental authorization to multicast.

To include that feature in HD Radios, chipmakers planned for features such as multicasting about a year ago.

"We've made it a point to let everyone know it (multicasting ability) is a standard part of the TI350 chip," said John Gardner, product manager for digital radio for Texas Instruments. The previous version, the 300, processed HD Radio only. The new DSP chip processes both analog and digital, he said.

"One processor is less expensive. On a lot of radios coming out there's no price difference" to add multicasting, he said.

Other than the display and the Select key, which is already embedded in the radio, there's really nothing to add, Gardner said.

Some HD Radios already in the market can be upgraded to include multicasting with a software change, he said. That's the case with the Kenwood HDR100.

At first, several experts said, when tuning to a supplemental channel listeners will see an icon or text display and click on it to tune to the SAP.

"We're trying to keep it as close to how you interact with the radio today," said John Crisco, product line manager for Polk Audio, which this fall plans to ship the I-Sonic entertainment system, which includes HD Radio and associated multicasting ability, as well as DVD and CD players. It's also XM-ready.



Delphi has developed a tuner module for HD Radio on which it plans to begin production in two months.

HD Radio receivers lock onto the analog signal first, while buffering the digital, much as satellite digital radios do (although in satellite radio there is no analog to hear first, so the user waits for a few seconds for tuner acquisition).

Acquisition time for the digital signal was estimated to take between 4 to 7 seconds for HD Radio, depending on manufacturer.

For example, he said, "When you tune to 88.1, if they are HD, it will have an HD logo. It will blink as it starts to lock into digital and then come in solid once the signal is locked in." This would be true for the main or supplemental channels, he said.

To tune to a SAP, the listener would hit "tune up" or turn the dial to the right. The next channels would be 88.1-1, 88.1-2 and so on.

A signal currently may be split four ways, he said, including the main channel and three supplemental channels.

Format-related issues

Receiver manufacturers also are taking into account how stations might program the extra channels, be they formats related to the main digital channel or unrelated.

Some broadcasters, for example, might tie their channels together, such as a package of new country, classic country and bluegrass. Or the main channel might be supplemented by the multicast content, such as a package of classic rock on the main channel, artist interviews or other related material on the first supplemental channel, and traffic and weather on the second.

A different situation arises when the station splits the channels into unrelated formats, such as classic rock, news/talk and local ethnic programming.

Manufacturers are keeping multicast station designations simple in first-generation production as they wait to see how stations brand their additional channels on the air. Having a jock say "WCBS(FM) HD-1" is quite a mouthful, for example.

Many stations are waiting to promote their digital conversions until more digital receivers are available; in interviews, manufacturers said they expected to ship product to stores from August to October.

"Kenwood chose to make each multicast channel a distinct 'station,' so that tuning is intuitive," said Mike Bergman, vice president of new digital technologies at Kenwood USA. "Dial up the dial, and you hit every main and supplemental channel. Presets on supplemental channels work as they do now."

With the Kenwood design, the user can set a preset on HD-1, another on HD-2 and flip back and forth. When the user goes to either, there will be a short delay while digital is acquired. In the case of HD-1, the user would hear the analog first, then digital. In the case of HD-2, the user sees the word "LINKING" or another message for the first few seconds, before the tuner acquires the digital audio, Bergman said.

"Going from HD-1 to HD-2, or back, after you first acquire the station's HD Radio signal, will be very quick," he said.

Boston Acoustics' approach is to use a knob for tuning and to display the frequency digitally, with no scan function.

On the Receptor HD unit, when someone tunes to a station, say 88.5, the listener would see an HD indicator while the receiver acquires the digital signal; some 7 seconds later, it indicates that the digital signal has been acquired.

Keeping it simple

The radio lines up the channels in order; if there are multicast channels, "an indicator lines them up in a row, such as, 88.5-1, 88.5-2," said Stephen Shenefield, senior director of product development, Boston Acoustics.

"As you go up the dial and back, the radio will remember what's going on, puts it in a linear sequence that you're accessing with a knob," in order to keep the process similar to traditional tuning, he said.

Delphi has developed an OEM automotive tuner module for HD Radio on which it plans to begin production in two months. "That tuner module was designed to interface with Ibiquity's system," said Dr. Robert Schumacher, business line executive for the Delphi division of Delco Electronics Systems, who added that all new Delphi radios are HD Radio-ready.

Delphi's vehicle customers are interested in the technology, he said, and once vehicle manufacturers commit to putting HD Radio in vehicles, the company could get product to market quickly. "They're interested and asking a lot of questions."

Jeff Marrah, manager of receiver technology for Delphi and co-chair of a National Radio Systems Committee

task group on identifying supplemental audio channels, said the group is looking at two approaches.

One is a so-called "layered" approach, in which "you're on a specific frequency and there's a layer of streams behind that frequency, such as HD-1, HD-2. That's what's out there today for products that have supplemental audio."

Radio can provide a bigger "pipe" into the car than RDS, said Schumacher, as stations re-purpose the traffic information they have and marry it with a navigation system and HD Radio receiver.

The so-called "buy" button, often touted as a possibility among IBOC proponents, is likely a year or two away, experts agree.

While the separate elements exist to



Polk Audio introduced the I-Sonic entertainment system at NAB. The audio system includes an AM/FM and HD Radio tuner, a DVD/CD player and XM Satellite Radio capability. It ships to retailers this fall.

Another proposal is to take the supplemental streams and lump them into a separate band. The group is looking at the pros and cons of each approach and will report its findings to the DAB Subcommittee, Marrah said.

And what of other potential datacasting services for HD Radio?

Some stations could use a supplemental channel as a subscription service for on-demand, real-time traffic and weather. HD

make the technology feasible, such as a cell, satellite or Internet-linked back channel that communicates information from the station back to the customer, a business models needs to be in place to support the additional necessary infrastructure.

Digital rights management also would come into play with this model, experts said, so that buyers would not be able to redistribute digital music they purchased. 🌐



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BBC Sees License Fee Confirmed

by Lawrie Hallett

LONDON The U.K. government has revealed plans for renewal of the BBC Royal Charter.

The charter, reviewed every 10 years, has been the statutory basis for BBC activities since soon after its formation in the 1920s. It is also the basis for a license fee charged for reception of television signals. While there is no radio fee, funds from the television fee — \$230 for a color TV, \$77 for a B&W set — are used to fund BBC Radio services.

The fee funds domestic BBC radio output, including various analog and

digital, national and regional channels as well as local radio services. Approximately 20 percent of BBC expenditures are radio-related.

Recent criticism

In fiscal 2003-04, BBC income totaled about \$6.8 billion, including revenue from commercial activities and government funds — paid by the U.K. to fund international activities, including the BBC World Service. Of this, about \$5.1 billion came from the license fee.

The BBC license fee will remain in place for at least another decade, according to Culture Minister Tessa

Jowell at the Department of Culture Media and Sport. The figure for the fee for the next charter period has yet to be finalized, but is likely to deliver a similar level of income to the BBC and to keep pace with inflation, experts say.

While the license fee lives on, the BBC Board of Governors does not. The government decided to abolish this part-regulatory, part-executive management body.

The Times of London recently reported: "The reforms were generally seen as a good outcome for the BBC, which was badly shaken by a row with the government over the Iraq war and criticized in a subsequent review by

Lord Hutton. The governors were singled out in that report for failing to respond to the complaints made by Downing Street; and their chairman, Gavyn Davies, was forced to resign."

Some members of the government and rightist tabloids said the "Beeb" is not sufficiently independent to adequately monitor and control corporation activities.

Two bodies will replace the Board of Governors.

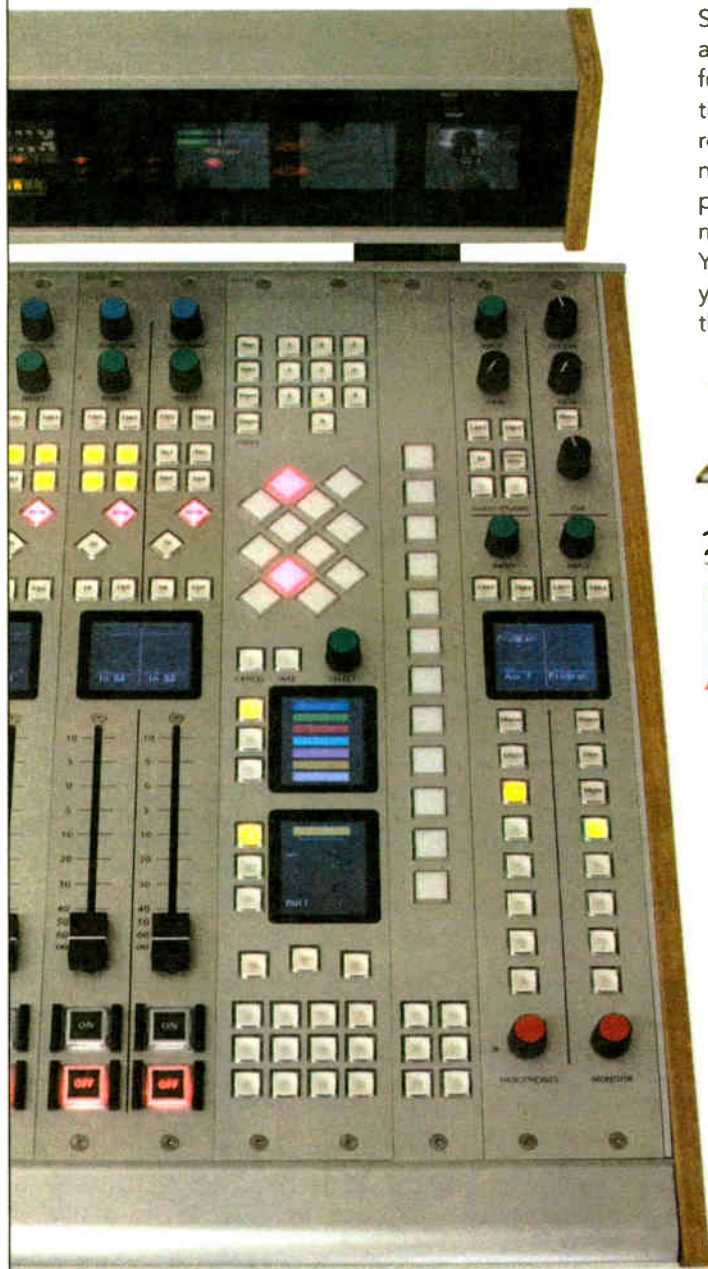
A BBC Trust will oversee the corporation, with responsibility for the license fee and for making sure the BBC fulfills its various public-service obligations.

A new executive board, made up of public appointees and civil servants, will be responsible for delivering services, operating within a framework set by the new BBC Trust, another public body.

Sovereign body

According to the government, the dual role of the governors as "cheer-

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Tessa Jowell

leader and regulator" does not sit easily in a public organization of the size and complexity of the BBC.

Speaking about the Royal Charter, Jowell said the BBC Trust and Executive Board would provide "much-needed daylight" between the two roles.

"License fee payers need to know who is speaking up for them," said Jowell. "They need to know exactly who is in charge, and they deserve to know how important decisions are made."

According to the government, the Trust will act as a sovereign body that may act independently of the government to keep members from being able to unduly influence BBC reporting, much as the Corporation for Public Broadcasting acts as a buffer between Congress and public stations in the United States. The Trust will have ultimate responsibility for the license fee.

Commercial rivals

The Executive Board will be responsible for day-to-day management, developing program strategies, delivering services and taking financial and operational decisions within the framework established by the Trust.

The director general or, at the discretion of the Trust, a non-executive, will

See BBC, page 7 ►

BBC

► Continued from page 6

chair the board, which will contain a significant minority of non-executives who will support the executive members by acting as advisors.

The monarchy will appoint Trust members, who will, in turn, appoint the chair of the Executive Board. Trust members must reflect the interests of a wide range of communities, according to the document laying out how the entities will be structured.

Trust members will be expected to understand and articulate the varying interests of England, Scotland, Wales and Northern Ireland, and to bring expertise in areas including the broadcasting and media industries as well as financial, legal and corporate matters.

The problem for the BBC is that, in an increasingly multichannel, multimedia world, an increasing number of

On the other hand, successive attempts to come up with a realistic alternative, without irreparably damag-

ating a "responsive, more accountable" BBC able to deliver quality services.

Jowell said it is vital to preserve BBC values, its global reach, its standards and its editorial independence.

"Our proposals, including keeping the license fee and renewing the charter for another 10 years, will enable it to do just that," she said.

The BBC has been at the center of other controversy in recent months. In May, journalists and technical employees held a 24-hour strike to complain about job cuts, on Monday which seriously disrupted live programming on television and radio.

The BBC director general has announced plans to cut about 20 percent of its workforce, or about 4,000 jobs. Further protests were planned, Reuters reported.

License fee payers need to know who is speaking up for them.

— Tessa Jowell

viewers simply do not watch BBC channels, making the obligation for all television viewers to hold a license increasingly difficult to justify.

ing the corporation, have failed.

According to Jowell, government proposals will ensure a "strong, independent BBC for the future" as well as cre-

The reforms were generally seen as a good outcome for the BBC, which was badly shaken by a row with the government over the Iraq war.

— The Times of London

The government has also commented on BBC commercial activities.

Commercial station rivals have often complained that the license fee allows the BBC too much freedom to interfere in the commercial space, damaging business.

"We want to keep the BBC strong, while ensuring that it does not become over-mighty in its dealings with the wider market," said Jowell. "We need it to be constrained when its interests collide with the commercial sector. It must not be tempted to use the unique clout the license fee gives it to step on the toes of other broadcasters."

Government proposals will go out for public comment and then form the basis for the renewal of the Royal Charter in 2007. The new charter will run through 2016.

Even though the primary BBC income source will be secure for another decade, the government has stated its intention to review funding for the corporation before the next charter expires.

Realistic alternative

There will be a specific review to determine whether to introduce alternative sources — including subscription fees for the reception of BBC services — after 2016.

According to the government, the BBC, like any public institution, needs to adapt if it is to serve its audiences and keep pace with changes in technology.



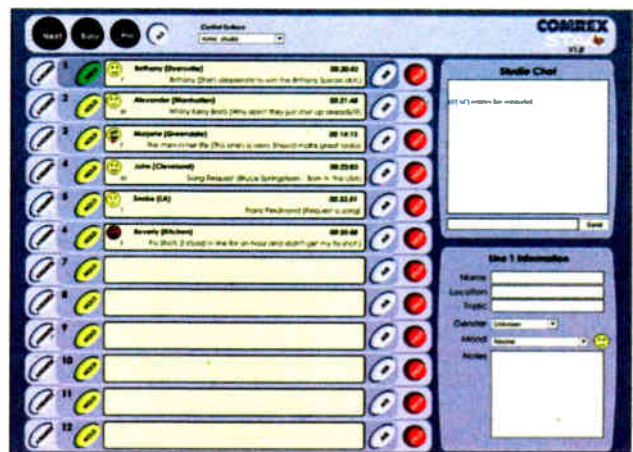
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COMREX

Auction

► Continued from page 3

have the resources to compete when that happens," Van Bergh said.

Meanwhile, the Minority Media and Telecommunications Council has asked the FCC to study 2004's Auction 37 to determine why minority firms fared poorly. The group says a random check showed that gains in minority ownership from last year's auction were negligible, according to Executive Director David Hoing.

"The top three Auction 37 winners, each of whom used bidding credits, were wealthy non-minority career broadcast executives," said the group.

Opponents of the simultaneous multiple-round auction claim the method by which the FCC sets minimum opening bids is inaccurate.

According to comments filed with the FCC by Mullaney Engineering Inc., which acted as a bidding agent for several potential buyers during the previous auction, minimum opening bids "are based, in part, on the number of persons encompassed within a potential coverage radius. However, in all cases, it appears the FCC is assuming a perfect circle of coverage."

The commission says it considers the type of service and class of facility offered, market size, population covered by the proposed FM broadcast facility and recent broadcast transactions in setting minimum opening bids

and reserve prices.

Mullaney Engineering executives claim the "oversimplification will result in the FCC's predicted population being higher or lower than it really should be."

'Unfair'

Summit Media Broadcasting, which owns several stations in Sutton, W.Va., found the bidding process to be "unfair to smaller broadcasters" and "favoring large bidders."

"The Simultaneous Multiple-Round Auction Design favors the national well-funded groups who have the ability to jump to a smaller-market channel if they encounter a high bid in a favored larger-market channel.

"This action creates a resting place for large bidders till they see how their preferred channel is doing. This may also be the reason for so many auction participants withdrawing their high bid and the FCC having to take back channels," a Summit Media Broadcasting senior executive wrote in a letter to the agency.

"We are reviewing comments on various auction procedures such as auction design, activity rules, round structure, minimum opening bids and bid withdrawals," FCC Audio Division spokeswoman Lisa Scanlan said.

The FCC planned to respond to auction commenters in the next public notice, called the Procedures Public Notice, which was to be released by the end of May, Scanlan said.

"It will be responsive to the com-

ments we received and announce the procedures and minimum opening bids for the upcoming auction," she said.

Most of the 30 leftover licenses from Auction 37 were the result of withdrawn bids, Scanlan said. Penalties may be incurred when bids are withdrawn.

According to FCC rules, "If a high bidder withdraws or defaults after the close of the auction, the high bidder is required to make an interim payment equal to 3 percent of the net amount of the withdrawn bid. The amount will be deducted from any upfront payments or down payments.

"If, in a subsequent auction, the winning bid amount for that license is less than the bidder's withdrawn bid amount, the bidder will be required to make a final bid withdrawal payment equal to either the difference between the bidder's withdrawn bid amount and

the subsequent net winning bid."

Those withdrawals drew the attention of several commenters, who claim some existing broadcasters could have used the tactic to keep new broadcasters out of certain markets.

"There may have been some gamesmanship going on in certain markets," said Van Bergh. "It's interesting when a group bids millions and then withdraws the high bid after five rounds pass by and the other competition is no longer able to bid on the CP. It's speculation, but surely the commission would be concerned about it."

Van Bergh, who represented several public broadcasters in Auction 37, said he expects some "minor tweaking" of the auction's process before this fall. Scanlan said three parties defaulted on their payment obligations for construction permits won in Auction 37.

| CP | ST | Market | CH | Class | Min. Bid |
|-------|----|----------------|-----|-------|-----------|
| FM001 | AK | Wasilla | 265 | C2 | \$120,000 |
| FM002 | AK | Yakutat | 280 | A | \$1,500 |
| FM003 | AL | Ashland | 264 | A | \$20,000 |
| FM004 | AR | Viola | 232 | C3 | \$50,000 |
| FM005 | AZ | Flagstaff | 279 | C3 | \$70,000 |
| FM006 | AZ | Salome | 270 | A | \$1,500 |
| FM007 | AZ | Tubac | 250 | C1 | \$20,000 |
| FM008 | AZ | Yuma | 258 | A | \$7,500 |
| FM009 | CA | Alhambra | 297 | C | \$20,000 |
| FM010 | CA | Blue Lake | 292 | A | \$60,000 |
| FM011 | CA | Boonville | 300 | A | \$7,500 |
| FM012 | CA | Coalinga | 247 | A | \$15,000 |
| FM013 | CA | Covelo | 245 | A | \$7,500 |
| FM014 | CA | Humboldt | 255 | A | \$15,000 |
| FM015 | CA | Indian Wells | 238 | A | \$200,000 |
| FM016 | CA | Jenner | 292 | A | \$150,000 |
| FM017 | CA | Lost Hills | 289 | A | \$2,500 |
| FM018 | CA | McFarland | 282 | A | \$90,000 |
| FM019 | CA | Tecopa | 291 | A | \$1,500 |
| FM020 | CO | Burlington | 247 | C1 | \$20,000 |
| FM021 | CO | Calhan | 284 | A | \$10,000 |
| FM022 | CO | Rangely | 295 | C1 | \$7,500 |
| FM023 | CO | Silverton | 238 | A | \$5,000 |
| FM024 | CO | Sterling | 248 | C3 | \$20,000 |
| FM025 | CO | Walden | 231 | C2 | \$10,000 |
| FM026 | FL | Columbia City | 243 | A | \$70,000 |
| FM027 | FL | Lynn Haven | 282 | A | \$120,000 |
| FM028 | FL | Perry | 299 | C3 | \$10,000 |
| FM029 | FL | Satellite Bch | 253 | A | \$200,000 |
| FM030 | GA | Ellaville | 290 | A | \$40,000 |
| FM031 | GA | Jacksonville | 272 | A | \$20,000 |
| FM032 | GA | Vienna | 221 | A | \$30,000 |
| FM033 | GA | Waynesboro | 225 | A | \$40,000 |
| FM034 | HI | Kahului | 223 | C2 | \$90,000 |
| FM035 | HI | Kihei | 298 | C2 | \$90,000 |
| FM036 | HI | Nanakuli | 295 | A | \$150,000 |
| FM037 | IA | Drankerton | 280 | A | \$120,000 |
| FM038 | ID | Hailey | 294 | C | \$120,000 |
| FM039 | IL | Eric | 288 | A | \$70,000 |
| FM040 | IL | Gilman | 277 | A | \$30,000 |
| FM041 | IN | Culver | 252 | A | \$70,000 |
| FM042 | KS | Olpe | 276 | A | \$30,000 |
| FM043 | KS | Pleasanton | 229 | C3 | \$30,000 |
| FM044 | KY | Westwood | 259 | A | \$150,000 |
| FM045 | LA | Hodge | 231 | C2 | \$90,000 |
| FM046 | MD | Mallard | 258 | A | \$70,000 |
| FM047 | ME | Machias | 266 | B | \$30,000 |
| FM048 | MI | Cheboygan | 249 | C3 | \$30,000 |
| FM049 | MN | Behevo | 290 | A | \$20,000 |
| FM050 | MN | Blackduck | 221 | A | \$7,500 |
| FM051 | MN | Blackduck | 283 | A | \$7,500 |
| FM052 | MN | Kelthier | 273 | A | \$2,500 |
| FM053 | MN | Roseau | 278 | C2 | \$15,000 |
| FM054 | MO | Cuba | 271 | A | \$40,000 |
| FM055 | MO | Edon | 270 | A | \$120,000 |
| FM056 | MO | Ravenwood | 291 | A | \$20,000 |
| FM057 | MO | Wheatland | 226 | A | \$15,000 |
| FM058 | MS | New Albany | 268 | A | \$30,000 |
| FM059 | MS | New Augusta | 269 | A | \$70,000 |
| FM060 | MS | Sahilo | 275 | C3 | \$120,000 |
| FM061 | MT | Boulder | 299 | A | \$30,000 |
| FM062 | MT | Browning | 234 | C2 | \$10,000 |
| FM063 | MT | Columbia Falls | 276 | C3 | \$50,000 |
| FM064 | MT | Darby | 300 | A | \$20,000 |
| FM065 | MT | Drummond | 268 | C | \$150,000 |
| FM066 | MT | Ennis | 254 | C2 | \$10,000 |
| FM067 | MT | Outlook | 289 | C | \$10,000 |
| FM068 | MT | Pablo | 259 | C2 | \$50,000 |
| FM069 | MT | Victor | 250 | C3 | \$40,000 |
| FM070 | MT | Whitehall | 274 | A | \$20,000 |
| FM071 | NC | Ocracoke | 234 | C1 | \$150,000 |
| FM072 | ND | Beulah | 250 | A | \$7,500 |
| FM073 | ND | Canon Ball | 298 | C | \$70,000 |
| FM074 | ND | Enderlin | 233 | C1 | \$150,000 |
| FM075 | ND | Flasher | 290 | C | \$70,000 |
| FM076 | ND | Gackle | 256 | C | \$30,000 |
| FM077 | ND | Hettinger | 228 | C1 | \$10,000 |
| FM078 | ND | Medina | 222 | C | \$30,000 |
| FM079 | ND | Rugby | 237 | A | \$2,500 |
| FM080 | ND | Washak | 262 | C1 | \$15,000 |
| FM081 | NE | McCook | 271 | C1 | \$20,000 |
| FM082 | NE | McCook | 280 | C2 | \$20,000 |
| FM083 | NH | Cirroveton | 229 | A | \$20,000 |
| FM084 | NH | Stratford | 254 | A | \$20,000 |
| FM085 | NH | Whitefield | 256 | A | \$20,000 |
| FM086 | NM | Des Moines | 287 | C | \$30,000 |

| CP | ST | Market | CH | Class | Min. Bid |
|-------|----|-------------------|-----|-------|-----------|
| FM087 | NM | Gallup | 268 | C1 | \$90,000 |
| FM088 | NM | Las Vegas | 224 | A | \$20,000 |
| FM089 | NM | Shiprock | 299 | C1 | \$120,000 |
| FM090 | NV | Beatty | 261 | C | \$1,500 |
| FM091 | NV | Fallon | 281 | C | \$120,000 |
| FM092 | NV | Wells | 280 | C1 | \$1,500 |
| FM093 | NY | Canaanota | 246 | A | \$50,000 |
| FM094 | NY | Lime Valley | 290 | A | \$50,000 |
| FM095 | NY | Livingston Mnr | 296 | A | \$50,000 |
| FM096 | NY | Mtnera | 264 | A | \$7,500 |
| FM097 | NY | Narrowsburg | 275 | A | \$40,000 |
| FM098 | NY | Old Forge | 231 | A | \$2,500 |
| FM099 | NY | Saranac Lake | 227 | A | \$20,000 |
| FM100 | NY | Wellsville | 228 | A | \$50,000 |
| FM101 | NY | Windsor | 294 | A | \$50,000 |
| FM102 | OK | Aba | 296 | C3 | \$10,000 |
| FM103 | OK | Antlers | 222 | C2 | \$40,000 |
| FM104 | OK | Granite | 282 | C3 | \$40,000 |
| FM105 | OK | Mooreland | 283 | C1 | \$40,000 |
| FM106 | OR | Buna Falls | 225 | A | \$15,000 |
| FM107 | OR | Pilot Rock | 221 | C3 | \$50,000 |
| FM108 | OR | Sunriver | 224 | C2 | \$50,000 |
| FM109 | OR | Vale | 288 | C | \$200,000 |
| FM110 | PA | Farmingington Twp | 291 | A | \$15,000 |
| FM111 | PA | Meyersdale | 253 | A | \$90,000 |
| FM112 | PA | Strattanville | 267 | A | \$40,000 |
| FM113 | SC | Due West | 237 | A | \$90,000 |
| FM114 | SD | Brandon | 261 | A | \$150,000 |
| FM115 | SD | Burke | 264 | A | \$2,500 |
| FM116 | TN | Tiptonville | 247 | A | \$30,000 |
| FM117 | TX | Breckenridge | 261 | A | \$5,000 |
| FM118 | TX | Centerville | 278 | A | \$10,000 |
| FM119 | TX | Charlotte | 272 | A | \$7,500 |
| FM120 | TX | Giddings | 240 | A | \$30,000 |
| FM121 | TX | Hunt | 260 | A | \$10,000 |
| FM122 | TX | Iowa Park | 242 | A | \$120,000 |
| FM123 | TX | Leakey | 226 | A | \$2,500 |
| FM124 | TX | Madisonville | 267 | A | \$20,000 |
| FM125 | TX | Mason | 259 | A | \$2,500 |
| FM126 | TX | Meridian | 237 | A | \$7,500 |
| FM127 | TX | Metzton | 266 | A | \$1,500 |
| FM128 | TX | New Boston | 286 | A | \$30,000 |
| FM129 | TX | Pearall | 277 | A | \$15,000 |
| FM130 | TX | Reno | 255 | A | \$50,000 |
| FM131 | TX | Rocksprings | 223 | A | \$1,500 |
| FM132 | TX | Rocksprings | 295 | C2 | \$2,500 |
| FM133 | TX | Santa Anna | 288 | C3 | \$30,000 |
| FM134 | TX | Sulphur Bluff | 259 | A | \$15,000 |
| FM135 | UT | Parowan | 300 | C2 | \$15,000 |
| FM136 | UT | Torrey | 253 | A | \$2,500 |
| FM137 | VA | Glade Spring | 274 | A | \$70,000 |
| FM138 | VA | Charlotte Amalie | 226 | A | \$1,500 |
| FM139 | VT | Brighton | 295 | A | \$20,000 |
| FM140 | VT | Bristol | 248 | A | \$90,000 |
| FM141 | WA | Royal City | 228 | A | \$2,500 |
| FM142 | WA | South Bend | 300 | A | \$10,000 |
| FM143 | WI | Sister Bay | 286 | A | \$5,000 |
| FM144 | WI | Westby | 280 | A | \$20,000 |
| FM145 | WV | Arnoldsburg | 264 | A | \$20,000 |
| FM146 | WV | Burnsville | 238 | A | \$30,000 |
| FM147 | WY | Bagsy | 277 | A | \$1,500 |
| FM148 | WY | Basin | 277 | C2 | \$10,000 |
| FM149 | WY | Casper | 228 | C1 | \$70,000 |
| FM150 | WY | Clearmont | 287 | A | \$1,500 |
| FM151 | WY | Cody | 244 | C3 | \$15,000 |
| FM152 | WY | Dubois | 231 | A | \$1,500 |
| FM153 | WY | Hanna | 271 | C | \$15,000 |
| FM154 | WY | Hanna | 277 | A | \$1,500 |
| FM155 | WY | Hudson | 275 | C | \$30,000 |
| FM156 | WY | Hudson | 286 | A | \$30,000 |
| FM157 | WY | Kaycee | 222 | C1 | \$2,500 |
| FM158 | WY | Lusk | 242 | C | \$30,000 |
| FM159 | WY | Mayville | 255 | C1 | \$7,500 |
| FM160 | WY | Meeteetse | 273 | C | \$50,000 |
| FM161 | WY | Pine Haven | 260 | A | \$1,500 |
| FM162 | WY | Showhorn | 244 | A | \$1,500 |
| FM163 | WY | Showhorn | 290 | C | \$40,000 |
| FM164 | WY | Ten Sleep | 286 | C3 | \$1,500 |
| FM165 | WY | Upton | 283 | A | \$1,500 |
| FM166 | WY | Upton | 290 | C1 | \$20,000 |
| FM167 | WY | Warsaw | 282 | C | \$30,000 |
| FM168 | WY | Warsaw | 234 | A | \$1,500 |
| FM169 | WY | Wheatland | 289 | A | \$7,500 |
| FM170 | WY | Wheatland | 293 | C1 | \$15,000 |
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A lot of muscle? You bet. No wonder the competition is running scared.



AP to Drop All-News Radio

by Randy J. Stine

WASHINGTON The Associated Press Broadcast division plans to drop its AP All-News Radio service in mid-July and also scale back its sports coverage.

The AP cited low demand as the reason for the change.

AP All-News Radio is a live, 24-hour news and information streaming feed designed and produced by AP broadcast news to make it easy for radio stations to offer continuous news programming. AP All-News Radio is delivered via satellite and Internet.

AP launched AP All-News Radio in 1994 as a 24-hour-a-day packaged radio newscast. ANR allows stations to insert local news and advertising into the format.

"Declining demand and changing needs made All-News Radio less relevant than it was when launched over a decade ago," said Director of Marketing and Communications Roger Lockhart. "It did not sustain the growth needed to continue."

Approximately 48 affiliates are carrying the product, AP said. The spokesman declined to say how many stations carried the service at its peak; the AP does not release such figures.

Despite the elimination of All-News Radio, no layoffs at the AP Broadcast News Center in Washington are expected,

Lockhart said.

"We will redeploy people across different services. We had a number of people contributing to (All-News Radio) and we will find ways to (use) them," Lockhart said.

He said the move allows AP to enhance existing online audio services like its "Prime Cuts" and "Soundbank" audio cut services.

Lockhart said AP will emphasize "a long-term growth strategy that allows us to develop a more flexible audio network and better meet demand in the marketplace."

"The marketplace for us is becoming more multi-media and more integrated. With the expected media consolidation, we'll see more of the need for clients to receive audio, wire and video. The Internet is certainly a big part of our long-term strategy. Our business climate overall remains very good," Lockhart said.

Traditional news offerings, including AP Network News and AP Online, are unaffected, Lockhart said. However, AP's sports department also will be scaled back in July.

"Sports will remain a part of the AP Network News product. However, less of a demand will result in fewer people working in the sports department. At this time we do not expect cutbacks. We will re-deploy some of those employees," Lockhart said, declining to give specific numbers of work-

ers that would be affected.

News/talk programming consultant Holland Cooke said that originally, it was consolidation that led to the need for a network 24/7 news format, because owners wondered what to do with the AM stations they were acquiring.

Now, he said, ANR affiliates will be left with few options for 24/7 news/talk programming.

"There is really nothing else out there. The marketplace is talking and AP saw the signs that this was not working. I would imagine they will try to accommodate some of those affiliates with other AP offerings."

"The influx of sports radio also has hurt the demand for an all-news service. Sports has a little more sizzle to it from a promotion standpoint," Cooke said.

Cooke believes AP All News Radio was not an expensive proposition for the network "since they have all of the news product in-house already. You just repurpose it."

Radio-Television News Directors Association President Barbara Cochran said, "All-news stations are thriving in


many markets. However, successful radio is very local. People are looking for local information, especially news."

Cochran speculated that AP likely can serve the majority of its affiliates better by cutting ANR and spreading its resources across its multiple services.

"AP is a very well-respected news organization. All-News Radio was a very good product. I think it's only natural that they probably examined the marketplace and figured they were better moving in a different direction. I don't think it's an indication that fewer people are interested in the news," Cochran said.

BIA Financial Network, a media research firm, estimates nearly 900 commercial stations are predominantly all-news, compared to nearly 700 in 1996, said Mark Fratik, vice president at BIA Financial Network.

"Even though the number of predominantly news stations has gone up since 1996, numerous broadcast groups have cut news room budgets substantially. There is a lot of expense associated with an all-news operation," Fratik said.

More than 4,500 radio stations in the U.S. subscribe to various Associated Press products, including text, audio and online services. 

NEWS WATCH

Adelstein: Clean Up 'Bottomless Pit'

WASHINGTON FCC Commissioner Jonathan Adelstein looked into payola when he joined the agency two years ago. Now, he said in a speech to the Media Institute, "I have discovered a bottomless pit of commercialism in today's media into which even icons we hold sacred are sinking and becoming sullied."

He referred to so-called video news releases, in which a spokesperson is paid for an endorsement or material is provided by the government. TV stations should disclose the source of this material, he said, describing it as payola. He also called for radio to clean up the practice of DJs endorsing products on-air.

saying it violates the sponsor ID rule.

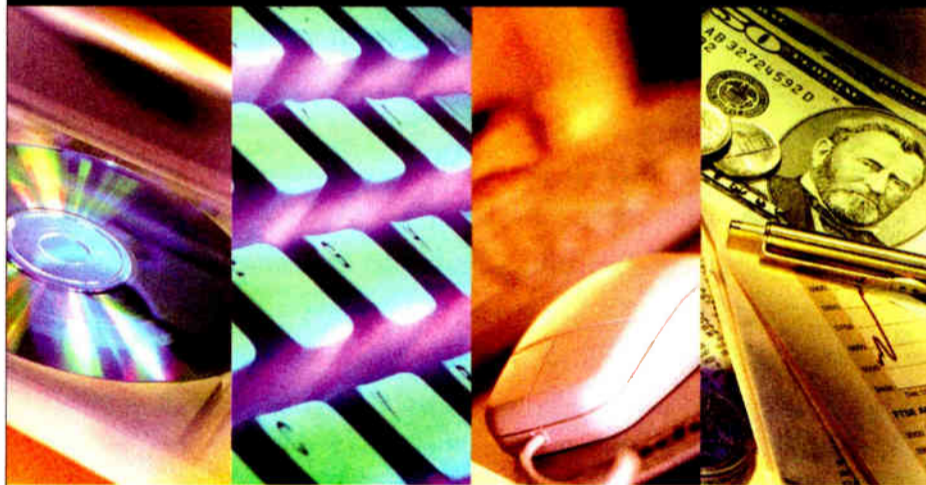
"Listeners are left wondering if the on-air personalities really liked the product, or whether the station was paid to promote it," Adelstein, a Democrat, said.

Project to Drive 5.1 Content, Demand

LOS ANGELES Coding Technologies and 10 other companies formed an Internet Surround Music Project to promote the creation and distribution of 5.1 music online. The project aims to provide a way for artists to get surround sound music heard and to encourage more artists to produce content in surround.

Members of the project include America Online's Winamp media player; Cakewalk; recording artist Richard Devine; and Minnetonka Software.

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- 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

more information: www.sinesystems.com

ON THE AIR

SANITIZED FOR YOUR PROTECTION

SOME WORDS SHOULD BE OBSCENE AND NOT HEARD



Eventide Broadcast Delays are designed to keep profanity off your air, and angry listeners, embarrassed advertisers, and the FCC off your back. We invented the obscenity delay and have a solution for stations large and small that provides up to 80 seconds of the highest quality revenue and license-protecting delay.

Our new HD compatible BD600, 24-bit delay, comes standard with AES/EBU, and provides up to 80 seconds of memory — twice as much as other delays. There are fully adjustable Delay and Dump functions, and a Sneeze function which “edits” audio entering the delay, allowing the host to sneeze, cough, or make a short comment without being heard on air.

The BD600 offers two different methods of delay buildup and

reduction: Eventide’s catch-up and catch-down system, and an exclusive fast-entry-and-exit feature which allows starting a broadcast with the delay already built up to a safe amount and ending it with a rapid reduction of delay.

For HD, the BD600 offers MicroPrecision Delay™ mode which allows up to 10 seconds of delay to be adjusted in real time in 100 nanosecond increments. This is useful for synchronizing analog and digital signals while on-air, without audible artifacts, to maintain a seamless user experience.

Whatever your size, whatever your format, you can’t expect to protect the integrity of your air and the foundation of your business without an Eventide Broadcast Delay in your rack.

Eventide

HD COMPATIBLE

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Eventide is a registered trademark and MicroPrecision Delay is a trademark of Eventide Inc. ©2005 Eventide Inc.

World Radio History



Just in time for summer, this special section of Radio World offers an overview of new gear introduced at the recent NAB2005 convention. "Cool Stuff" winners appeared last issue.

Suppliers, if your company showed a product that we missed, send e-mail to radioworld@imaspub.com so we can tell readers in a future issue.

Contributors to this section include Paul McLane, Leslie Stimson, Kelly Brooks, Marguerite Clark, Ty Ford, Scott Fybush, Harold Hallikainen, Paul Kaminski and Tom Osenkowsky.

Harris Emphasizes Digital and 'Renewed Focus' on Radio

The Broadcast Communications Division of Harris Corp. demonstrated its new Flexstar family of HD Radio products at NAB. The demo simulated an end-to-end platform for enabling digital broadcasting with services such as supplementary audio and data.

The company said the demo also showed "Harris' fresh perspective and renewed focus on the radio business." It said its experience in supporting peak demand of the HDTV implementation translates to a similar commitment of the HD Radio rollout.

The Flexstar demo included a Z8HD solid-state FM transmitter, the upcoming Flexstar exciter, and an HD1-100 importer and HDE-100 exporter, which multiplexes HD audio and data services into a compact bitstream.

Separately, the company said more than 65 percent of NPR stations had chosen IBOC transmitters from Harris during the first three rounds of HD Radio conversions. At NAB Harris also showcased its support of NPR's multicasting Tomorrow Radio Project.

And it displayed its NeuStar line, including the

new UltraLink Digital Radio Audio Conditioner, which uses Neural Audio technology.

In other business, it said Clear Channel Radio had purchased 100 Audemat-Aztec FMB80 RDS encoders, part of the second phase in that broadcaster's RDS rollout, following purchase of encoders at 192 of its top 50 market FM stations in 2004.

Harris added to its digital line of consoles with the Harris PR&E StereoMixer digital, part of the VistaMax line, positioned as a cost-effective board for smaller markets.

This show also was Harris' first demo of Digital Radio Mondiale in the United States. DRM is a nonproprietary digital AM radio system that promises near-FM quality sound plus the capacity to integrate data and text.

Harris exhibited its 3DX-50 AM transmitter, emphasizing its use for international and domestic applications. It said the model is in 75 installations in 10 countries and provides an upgrade path to DRM and HD Radio standards.



Harris ZCD10

And the company used several booth kiosks to demonstrate aspects of its product lines, including its Split-Level Combining method; turnkey program capabilities, reflected in recent big projects in Romania and Afghanistan; and its new Internet purchasing initiative, Premier Customer eCommerce, which is at <https://premier.harris.com/broadcast/>.

Contact the company in Ohio at (513) 459-3400 or www.broadcast.harris.com.

Continental Throws Its Hat in the HD Radio Ring

Continental, now an Ibiqity licensee, showed its 816HD Transmitter, which earned a "Cool Stuff" nod. The company says the user need only add an IBOC signal generator and an HD Radio license from Ibiqity. The approach uses the client's existing RF system and does not require separate antenna, IBOC combiner, circulators, tower mods or other add-ons. This is a single-tube unit. Owners of recent 816R FM transmitters may be able to upgrade.

The company also told attendees about its recent sale back to Veritas Capital and the restoration of the Continental name to the company, formerly part of DRS Technologies.

Also new at the company is Don Spragg, who joined Continental as engineering product manager. He has worked at HCJB World Radio, Crown International and most recently Harris Broadcast as director of Radio RF Products and Programs.

Contact the company in Texas at (214) 381-7161 or www.contelec.com.

Overheard at NAB

Compiled by Scott Fybush and Jackie Broo.

"Attendance has been affected by consolidation. But still the people that are coming are the ones that we need to talk to, so it works for us."

— Kim Winking

Marketing Communications
Broadcast Electronics

"We calmed some people down."

— Mike Black of WEOS(FM) in

Geneva, N.Y., one of several public radio managers conducting early training on the ContentDepot system during the Public Radio Engineering Conference. One of the big issues: the "mini-XLR" connector on the back of the new ContentDepot receiver.

Several vendors will be offering cables to connect the mini-XLR to standard audio connections.

"We've noticed that people are coming and wanting quotes. They are very serious at this show. They looked around and came to some decisions."

— Jackie Lockhart

Vice President of Marketing
Prophet Systems

"Five DOLLARS?!?!?"

— The more or less universal reaction to the floor price for a hot dog at the stands on the North Hall floor. At \$3.25, soda and bottled water were a comparative steal.

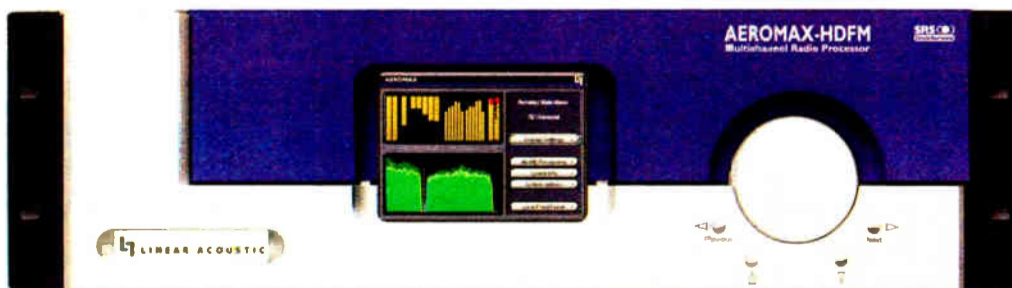


Audio processing for FM, multiple HD Radio programs and 5.1 Surround?

Yes, it can process your main FM, main HD and up to two supplemental HD channels.

Yes, it has all the multiband processing functionality you expect.

Yes, it encodes 5.1-Channel Surround, compatible with FM, HD and millions of consumer decoders TODAY.



Yes, there is a headphone connector behind this door.

Yes, that is a composite spectrum analyzer. Really. (and there's a scope too)

Yes, the user interface is simple to learn and use. (and of course there is a blue light)

Yes, yes and yes!

The Linear Acoustic AEROMAX-HDFM

LINEAR ACOUSTIC
Surround Sound Solved

354 North Prince Street, Lancaster, PA 17603, USA 888-292-3117 www.linearacoustic.com
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The routing switcher gets a new twist.

(About five twists per inch, actually.)

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

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



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

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

An expensive proprietary router isn't practical for smaller facilities. In fact, it doesn't scale all that well for larger ones. Here's where an expandable network really shines.

Connect eight Axia 8x8 Audio Nodes using Cat-6 cable and an Ethernet switch, and you've got a 64x64 routing switcher. And you can easily add more I/O whenever and wherever you need it. Build a 128x128 system... or 1024x1024... use a Gigabit fiber backbone and the sky's the limit.

Are you still using PC sound cards?

Even the best sound cards are compromised by PC noise, inconvenient output connectors, poor headroom, and other gremlins. Instead, load the

Axia IP-Audio Driver for

Windows® on your workstations and connect *directly* to the Axia audio network using their Ethernet ports. Not only will your PC productions sound fantastic, you'll eliminate sound cards and the hardware they usually feed (like router or console input modules). Just think of all the cash you'll save.



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



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

Put your preamps where your mics are.

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

Put your snake on a diet.

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



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



Scott Studios



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

With a little help from our friends.

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

Would you like some control with that?

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



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



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



Axia products are available in the USA through Broadcasters General Store and live direct Shipper Worldwide. See www.AxiaAudio.com for more information.
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Burk G-Link Expands G-Bus

Burk Technology showed its G-Link G-Bus Expansion Series, which earned a "Cool Stuff" Award. The products can be plugged into new and existing GSC3000 systems and include models AC-4 (shown) and AC-8 Power Strip Controllers for remote management of 120V inputs such as HVAC appliances, lighting, computers, etc.; GT-4 four-input remote temperature monitoring unit; and GX-128 for controlling off-the-shelf X10 brand automation products.



Also new are AutoPilot 3 Custom Views, which provide more flexibility in viewing and managing an unlimited number of ARC-16 sites. Users can select individual channels to display on the PC interface, and they can draw from as many sites as needed to create a drill-down approach to fault resolution, a map-based geographic view for multiple sites or a customized interface for operation-specific work flows or procedures. Also new is an e-mail alarm notification utility.

And Lynx 5.1 has a new Virtual Channels feature, allowing users to create new remote control channels derived from conditions on one or more existing channels. The channels provide a quick reference for the broadcaster to verify conditions at multiple sites or to check on critical processes that rely on pieces of equipment working together.

Contact the company in Massachusetts at (978) 486-0086 or www.burk.com.

BE Shows 'Second-Gen' HD Radio Line; Data and Surround

Broadcast Electronics was at NAB with a range of offerings related to data, secondary program services and digital.

It said its new importer line is capable of not one but multiple Secondary Program Services; and it said the first live test of two supplemental

audio channels over HD Radio took place using its IDi 20 importer, shown, at WFAE(FM) in Charlotte, N.C.

At the show, BE, Beasley and Ibiqity presented what they called the first public demo of HD Radio multicasting on a commercial station, KSTJ(FM) on 102.7 MHz in Las Vegas.



BE showed a reconfigured HD Radio line that integrates exporter and signal generation into one unit so customers can move HD origination to the studio. "This makes it possible for broadcasters to move up to second-gen data and multiple program services without adding yet another box to the chain," a spokeswoman said. "Broadcasters who have implemented or ordered BE HD Radio systems will be offered a low-cost upgrade path."

BE also demo'ed end-to-end HD Radio surround sound originating from an AudioVault audio system and through an HD Radio transmission chain, including its XPi 10 HD Radio data exporter and FXi 60 digital FM exciter. Surround formats represented included SRS Circle Surround, Neural Audio and Dolby Labs' Pro Logic II. Telos Systems also showed surround implementations using an AudioVault and FXi digital FM exciter.

Three broadcasters won Boston Acoustics HD Radio receivers awarded by BE during the show. BE also announced a series of sessions for consulting engineers focusing on HD Radio and synchronous FM.

BE showed a data product line resulting from its acquisition of The Radio Experience, including a new RDS generator and monitor line; software applications for basic RDS text and advanced data over FM, HD Radio and the Net; and a monthly service for enhancing listenership through the Web that includes CD cover graphics, e-commerce and search engines for song inquiries. All are compatible with AudioVault. A new text data interface lets text be parsed from AVAir and formatted for display on RBDS or HD Radio radios or streamed.

And BE showed a new software version for the AudioVault, V9.0, that includes 37 enhancements including a text data interface and new failsafe features. Features include dual network support and server failover and more flexible sta-

tion-wide play while recording.

Contact the company in Illinois at (217) 224-9600 or www.bdcast.com.

Audemat-Aztec Shows a Touch Of Silver

Audemat-Aztec introduced two products for the HD Radio market and a family of gear for smaller stations.

NAVIBOC, shown, is a mobile metering unit for coverage analysis of HD and FM signals. It includes a GPS receiver for automatic mapping overlay.



Goldeneagle HD is a monitoring unit for permanent monitoring of HD and FM signals as well as PAD and RBDS data. An embedded spectrum analyzer is available as an option to monitor power of the sidebands and other parameters. It has a Web server and SMTP server for alarm notification as well as touchpad screen. Installed on the transmitting site, it can be used as a remote control unit by adding 16 digital inputs, 16 metering channels and 16 relays outputs. It will be available in an AM version as well.

The company also announced its economical Silver line. The Silver mobile FM meter comes with external GPS receiver, FM antenna and PC software. It can perform an RF campaign of a single station and analyze FM and RDS sub-carriers. Data can be exported to MapPoint PC software using the serial cable.

The Silver dynamic RDS encoder integrates developments such as Scrolling PS and includes a serial cable RS-232-USB to connect the encoder to the PC. Software includes a configuration wizard, automatic calculation of the PI code, command interpreter for connection to automation software and labelling.

Contact the company in Florida at (305) 249-3110 or www.audemat-aztec.com.

Marantz Records to CF In Field and Rack

D&M Professional introduced the PMD660 digital audio recorder for use in the field. A "Cool Stuff" winner, it records 44.1 or 48 kHz WAV files to CompactFlash media cards. It can also record MP3 in mono at 64 kbps or stereo at 128 kbps. Using a 1 GB card, the PMD660, shown, can record over an hour of stereo or 3 hours of mono uncompressed audio. With MP3 encoding, over 17 hours of stereo or almost 36 hours of mono will fit on a card.



The PMD660 has built-in stereo microphones and XLR connectors with phantom power for external condenser microphones. Field editing can be

done by copying and pasting segments into a new sound file, or by creating an "edit list" that stores edited audio files for playback. This "virtual track" mode supports up to 99 edits. An optional wired remote control mounts on an external microphone to put controls and indicators in front of the reporter.

The rack-mount PMD570 records MP3, MP2, WAV and BWF files to CompactFlash cards with sample rates of 16 to 48 kHz. An RS-232 interface permits control from a PC.

Contact the company in Illinois at (630) 741-0330 or visit HYPERLINK "www.dm-holding.com" www.dm-holding.com.

Pristine Tells What's In the Black Box

Pristine Systems said its Blackbox Digital Audio Logger, Monitor and Alert System helps manage compliance, proof, audit, programming and engineering needs. It records audio from 16 stereo AM, FM and TV stations at a variety of sample rates. Blackbox records the entire programs along with "mic open" markers. Skimming is performed during playback by clicking to jump between the markers.



A Virtual Radio interface allows switching between stations during playback. The Blackbox also records RF Signal Strength and has an extensive alarm system that provides alerts that can play a WAV file through the station PA system, send a serial command to a switcher or modem, dial a pager or phone, send an e-mail message, issue a DOS command to a computer and/or use TTL to control lamps or warning devices.

Applications include using the recorder for podcasting, time shifting, repeat-record and promo recorder.

Also new, SmartPromo is an intelligent automation software within Pristine's CDS³² system that assembles the right previously recorded VOs and music bites for any number of songs coming up for airplay, automatically creating a VO promo tease.

Contact Pristine Systems in California at (800) 795-7234 or visit www.pristinesys.com.

EV Is a Bit B.L.U.E.

In a collaborative effort with B. L. U. E. Microphones, ElectroVoice brought two new cardioid studio mics to market.

The Cardinal is a cardioid condenser with Class A electronics for both voice and instrument. The Raven, shown, is a dynamic mic for vocal or instrument use. Both mics use a 3/4-inch diaphragm and are constructed from brass



and wood. ElectroVoice is distributing B. L. U. E. mics worldwide except for the U.S. and Japan.

Contact the company in Minnesota at (800) 392-3497 or visit www.electrovoice.com.

Indecency Processor



No, this product doesn't remove naughty words, but if you do run a profanity delay or simply have a buildup of digital latency, talent can't listen to the processed air signal. Instead, their feed is probably direct from the console. Compared to the air sound, this can seem weak, dull and lifeless.

Our Model 255 Triband Spectral Loading™ processor has zero delay and can deliver a dense, tight, and punchy "broadcast" sound to headphones and control room speakers... a sound you can't achieve with a general-purpose "utility compressor." Other 255 applications include the program feed to telephone hybrids and IFB processing.

Give talent and other house feeds a sound that's closer to your air sound. See your preferred equipment supplier for a demo of the 255 in your monitor channel.

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

Model 255 - \$2100

Visit www.inovon.com for full technical details

Bext FLX Tx Series Combines Amps, Exciters

Bext was at NAB2005 with its FLX FM series of transmitters, which include stereo generators and audio limiters in two RU. The company says engineers do not have to worry about exciters, amplifiers, stereo generators and audio limiters as separate items. Each power level can be purchased for use as an amplifier or, with the addition of a slide-in Exciter module, as a full FM transmitter.



The series is available in power levels of 350, 650, 1000 and 1300 watts. Units can be combined to achieve up to 20 kW. Front-panel USB ports allow computer interface for remote control and status reporting capability.

Also on display was the FLX 5000 compact FM transmitter, now in power levels of 5, 10 and 20 kW. Dual/redundant exciters with auto-changeover are available as an option. The Lex 30 FM transmitter was updated and is joined by the Lex 50 and Lex 100, which Bext touts as a 100-watt FM transmitter/exciter that fits in one rack space.

Bext also demonstrated FMeXtra, an approach to putting out digital signals over the analog carrier, in the XD-1 Radio Encoder. Broadcasters learned how to add digital stereo, multiple audio channels and digital data up to 128 kbps to the existing analog broadcast.

Contact Bext in San Diego at (619) 239-8462 or visit www.bext.com.

RCS Upgrades With .NET Platform

RCS announced a switch to a development platform integrating specialized development tools. The company says a new breed of products will be featured to enable rapid software development and shorter timeline of systems rollout, including a new music scheduler, promo scheduler, digital automation system and RCS Traffic System.

"Because of the ... Rapid Application Development features of Microsoft's .NET, C# and asp.net, RCS is making this upgrade," said Dr. Ted Nygreen, RCS vice president/general manager and CTO.

"Over the next year, RCS will transition its software programs to this new development platform. We are excited about the long-term improvement in productivity." RCS is a Microsoft Certified Partner.

Contact RCS in New York at (914) 428-4600 or visit www.rcsworks.com.

BSI Archives Audio With SkimmerPlus

While the FCC has not imposed the proposed audio logging requirement, Broadcast Software International's SkimmerPlus could be used to fulfill that requirement. SkimmerPlus records high-quality uncompressed audio files along with archive quality compressed files. It can be used to continuously log programming, record specific programs based on a timed schedule or record based on an external trigger ("skimming"). For station clusters, SkimmerPlus records multiple program streams. Users can use a Web browser to play the logged audio through an included server. Users can be granted or denied access to the system through assignable permissions.

SkimmerPlus also can be used to delay programs for later broadcast. It includes e-mail and FTP connectivity and runs under Windows 2000 or XP Professional.

Contact the company in Oregon at (541) 338-8588 or visit www.bsiusa.com.

Belar Taking Orders On HD Radio Monitor

The Belar FMHD-1 is an HD Radio monitor that decodes the digital and analog FM signals and displays status, data, time alignment and configuration info, as well as audio metering and RF/audio spectrums.

The unit, 2RU high, has a color LCD display and rotary encoder. It supports monitoring multiple audio streams and simultaneous monitoring of two streams with an optional second plug-in HD decoder. The eight user-assignable analog audio outputs and three assignable optical AES/EBU outputs provide support for applications such as 5.1 surround and multicasting.

Older wideband analog FM monitors may

require prefiltering to remove HD Radio sidebands. The new unit provides two filtered analog composite outputs for driving these monitors.

Contact the company in Pennsylvania at (610) 687-6660 or visit www.belar.com.

Aphex 207D Adds AES/EBU

Aphex Systems showed the Model 207D two-channel tube microphone/instrument preamplifier with digital outputs. The company says the 207D takes its Model 207 and adds AES/EBU and S/PDIF digital outputs for direct digital connection throughout the signal chain, with up to 96 kHz sampling rates. It also adds Word Clock I/O for digital clocking synchronization.

The 207D uses Reflected Plate Amplifier technology, a vacuum tube circuit that the com-

pany says has the desired tube characteristics without shortcomings of conventional tube designs like heat, fragility, sonic variability, short life and high frequency roll-off.



Its MicLim circuitry makes it suitable as a front end for digital recorders. An insert loop is provided for adding dynamics or effects processing prior to conversion. The mic and instrument inputs offer up to 65 dB of continuously variable gain. Switchable 48 Volt phantom with ramp-up feature is provided, as well as a delayed turn-on circuit for speaker protection.

Aphex also debuted its Model 230 Master Voice Channel, which combines preamplification, dynamics processing and psychoacoustics; it earned a Radio World "Cool Stuff" Award.

Contact Aphex in California at (818) 767-2929 or visit www.aphex.com.



"AudioVAULT Version 9.0 is Ready To Go!"

With twenty years of engineering experience between them, Kim and Lori know when software is ready for delivery. Heading up our AudioVAULT test department, they put every aspect of Version 9.0 through the most rigorous evaluation, so you're assured this version of AudioVAULT is as reliable and robust as its predecessors. Among the more than three dozen enhancements are dual network support for redundancy, server failover without program interruption and more flexible station-wide play while recording. And as is always the case with AudioVAULT, your pager is less likely to go off at night—thanks to Kim and Lori.



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

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

Overheard at NAB

Compiled by Scott Fybush and Jackie Broo.

"A wonderful experience, I've attended five seminars I learned a great deal from them. Unfortunately, the days that are allotted (for events) are too limiting, and you can't go to all the seminars and workshops and get to see everything on the floor."

— Ronald Reeves
Allegheny East Conference
Pine Forge, Pa.

"We've just been smashed. It has just been an excellent show. I've hardly had time to get out of the booth. Our sales guys are struggling to keep up with paperwork."

— Andy Calvanese
Vice President
Wheatstone

"IBOC-able."

— Dave Hultsman, coining an NAB neologism to describe how recent Continental analog FM transmitter models can be adapted to handle HD Radio.

"This has been a good crowd. They are asking good questions. There is a heightened awareness on the HD side. People are looking for multiple solutions."

— Bill Gould
Mosely Broadcast

"This gives us a chance to meet 25 years worth of friends."

— Judy Saxberg
Beem Company

Nautel XR Series Offers HD Radio Implementation

Nautel debuted its XR series of AM digital transmitters, available in 12, 25 and 50 kW.

Features include plug-and-play HD Radio implementation; load sharing, hot-pluggable modules that can be removed and replaced while the transmitter stays on the air; and dual DDS exciters and modulation encoders that take over when a problem is detected, providing redundancy. XR transmitters also feature redundant cooling fans.

The power preset scheduler lets operators specify schedules for changes to power and modulation settings, allowing for unattended operation. Reserve power overcomes antenna system losses, and allows aggressive signal processing and high levels of asymmetrical modulation for more sideband energy and a stronger signal. The reserve power also enables simultaneous transmission of AM digital and analog service.

The company says the XR transmitters require no manual tuning or adjustment, and the fault-tolerant design can maintain operation despite problems that can occur in an antenna system.

Additionally, Nautel announced an HD Radio data importer to support Secondary Program Service applications such as NPR's Tomorrow Radio. It is encoded and multiplexed with secondary audio PAD, and sent to the Nautel NE IBOC HD radio signal generator over an Ethernet connection, allowing broadcasters to split their HD Radio data between SPS and Main Program Services.

Contact Nautel in Maine at (902) 823-2233 or visit www.nautel.com.



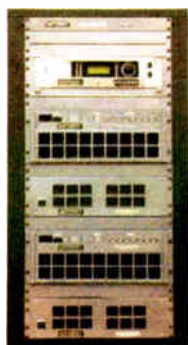
Crown Broadcast Powers Up With FM4000

Known for lower-powered transmitters and translators, Crown Broadcast is expanding to higher-powered FM offerings with the introduction of the FM4000 4 kW FM broadcast transmitter.

The FM4000, shown, uses two PA2000 2 kW power amplifiers, two PS2000 power supplies, an FM250 exciter and a controller. It has eight hot-swappable 500-watt power modules, allowing service to be performed with minimal loss in output power. The FM4000 is available in two cabinet configurations, including a "short cabinet" that measures only 45 x 24 x 28-1/2 inches and weighs less than 700 pounds.

Crown says the 4 kW transmitter will be the base unit for 6, 8 and 10 kW units.

Crown will also provide access to the AIRSIS Translator Monitor 2000, a monitoring and control system that allows users to manage translator networks from a central location via satellite and Internet connections. The AIRSIS Vision Web-based monitoring service operates through Orbcomm's low-earth orbiting satellite network to provide near-real time



monitoring, alerting and fault reporting for translators in remote locations.

Contact Crown Broadcast in Indiana at (866) 262-8972 or www.crownbroadcast.com.

FM Optimod Line Expands

Orban/CRL unveiled a new flagship FM processor, the Optimod-FM 8500, shown.

The company said it incorporates the features of the 8400, and adds several to help stations using HD Radio, Eureka-147 or netcasting. It uses 64-bit sampling, allowing for an audio bandwidth of 20 kHz (compared to 15 kHz in earlier models), and its circuitry now has twice the DSP processing power. The 8500 ships with approximately 20 factory-designed presets and can be customized with a one-button "Less-More" control. The processor was a Radio World "Cool Stuff" Winner.



Orban/CRL also showed the Optimod-FM 8400 Signature Series, which incorporates 10 new presets designed for European stations and a newly designed purple front panel that includes the signature of Orban founder Robert Orban. And the supplier is now shipping the Optimod-FM 5300, the first Optimod processor to put both five- and two-band processing in 1RU package; it's designed for users with modest budgets.

Contact Orban/CRL in California at (510) 351-3500 or www.orban.com.

Sicon 8 Is Talking Remote Control From CircuitWerkes

CircuitWerkes introduced its Sicon 8 dial-up talking transmitter remote control.



The Sicon 8 provides metering, status and control for eight channels of data, as well as audio pass-through via balanced inputs. It features a cell-phone audio interface to allow use in areas where phone lines are not available, as well as a free Windows interface and an optional X10 interface for control over existing electrical wiring.

The Sicon 8 allows users to record their own audio status messages, allowing it to operate in any language; it also comes programmed with English and optional Spanish announcements.

Contact CircuitWerkes in Florida at (352) 335-6555 or www.circuitwerkes.com.

Composite Distribution by Broadcast Devices

Broadcast Devices showed its CMP-300 composite mixer distribution system, pictured,



which provides three balanced or unbalanced inputs to accept composite stereo, subcarrier

and/or RBDS signals and a three-output distribution amplifier to send the mixed signals to up to three exciters or STLs.

The supplier also exhibited its CDS-300 and 302 series composite switcher distribution systems, which can now be ordered with the CTD-1 module that provides a pair of AES3 digital outputs for use with digital exciter inputs or IBOC. (The CTD-1 is available as an add-on to existing CDS-300/302 switchers.)

And the company showed its AES-302 two-input digital audio switcher that can provide automatic or manual switching to an alternate digital audio path upon loss of signal, user-defined error flags or silence sense. The AES-302 is available with AES, S/PDIF or optical digital audio interfaces.

Contact Broadcast Devices in New York at (914) 737-5032 or www.broadcast-devices.com.

Symetrix 6200 Is Shipping

Symetrix displayed the AirTools 6200 Digital Voice Processor, which can be controlled from the front panel or via Windows PC. It uses two audio pathways, operable independently or as a stereo pair, low latency and 256 program locations.

According to Jim Latimer, director of sales, "The 6200 builds on its classic predecessors, the 528, 528E and 628. Features include low-pass, high-pass and shelving filters, de-esser, downward expander, comp-limiter/AGC-leveler, four-band parametric EQ and voice symmetry. PC control is possible via secure RS-232, Ethernet or USB."

An engineer may control multiple 6200s remotely, changing parameters or save/recall programs from a single location. Any of the 256 available programs may be loaded manually or internally by predetermined schedule using the internal clock or the user's ESE time code reference.

Contact the company in Washington at (425) 778-7728 or visit www.airtoolsaudio.com.

Bird Improves Broadcast Power Monitor Line

Bird Technologies Group's BMP-E broadcast power monitor monitors VSWR and power via Ethernet or RS-232. A Web interface provides on-screen, real-time displays and history of power, VSWR and alarms.

Standard Bird elements have been replaced by new directional couplers; RF detection was moved to within the control box.

The company says this offers wider dynamic range for power measurement, lower noise, temperature stability and higher accuracy.

For IBOC, spectral regrowth can be measured by a spectrum analyzer from an additional third port. The BMP-E is normally placed at the output of a combiner, before an antenna, on a reject load and after an analog or digital transmitter.

The BMP-E also allows the user to configure and select the calibration point frequency in the field, via software. In replacement applications one spare can be programmed to replace any number or other units regardless of frequencies.

Contact Bird Technologies Group in Ohio at (866) 695-4569 or visit www.bird-electronic.com.



Armstrong Tx Debuts Portable Broadband Antenna

The FMA-2VBP from Armstrong Transmitter is a 2 kW vertical broadband portable FM antenna. It is packaged in a standard hard-shell shotgun case for shipping, easing emergency shipment.

The company says the broadband design and 2 kW input power capability make the FMA-2VBP suitable as an emergency antenna, as it gives stations an expedited method to get back on the air in minimum time with a reasonable signal.

Multiple bay versions with branch-fed harness and power divider are available.

Features include broadband 88-108 MHz; brass construction and 7/8-inch input to each bay.

Contact Armstrong Transmitter in New York at (315) 673-1269 or visit www.armstrongtx.com.

Henry Shows AutoSwitch, StudioDrive-USB

Henry Engineering says the AutoSwitch audio switcher and silence sensor solves the problem of DJ "headphone echo" caused by digital audio processing. AutoSwitch switches the headphones to a local undelayed source when the mic is on, to eliminate echo and flanging effect caused by latency delays in processors. AutoSwitch can be used to monitor an audio source, and switch to a backup if the main source fails or loses a channel.

The StudioDrive integrated PC audio system is now available with a USB interface option, which allows it to be used with a laptop or computer without a sound card. StudioDrive-USB adds the mixing, monitoring and control functions of a broadcast console, creating an integrated, PC-based studio. It is suitable for live broadcasting, mobile audio editing, remote broadcasts, radio automation or as an emergency studio.

Henry Engineering also featured its MultiPhones distributed headphones system, which earned a Radio World "Cool Stuff" Award.

Contact the company in California at (626) 355-3656 or visit www.henryeng.com.

Tieline Commander Line Grows

Tieline's Commander G3 rackmount codec combines a choice of POTS, ISDN, GSM and IP codecs within an 11 x 6 digital cross point audio router and digital audio mixer.



The company offers several products under the Commander name. The TLR300 1 RU Commander codec chassis features front status indicator LEDs only; the TLG3GUI software control interface is a PC software package that emulates a hardware screen/control interface and can control the TLR300 over LAN, USB or serial connections.

The TLR303 2RU hardware control interface, shown, can replace the LED front panel on the TLR300 by attaching to the front of the 1RU rackmount; or it can be installed in a different area and linked to the rackmount via the controlled area network and audio connectors on each unit.

Tieline touts the Commander G3's DSP platform and Expansion Slot, which enable stereo 15 kHz over analog POTS links, plus up to 20 kHz stereo over ISDN and IP streaming networks and 7.5 to 15 kHz over GSM networks.

The company also displayed the 16 x 9 i-Mix G3 mixer, which it describes as a digital mixer, audio router and POTS, ISDN, GSM audio codec system.

Contact Tieline in Indianapolis at (317) 845-8000 or visit www.tieline.com.

A-T Has Cardioid Condenser

Audio-Technica debuted the AT2020 Cardioid Condenser Microphone, which the company says has a new proprietary design. The mic is rugged, making it useful for remote and production use.

The AT2020 uses a low-mass diaphragm and a fixed cardioid polar pattern. Features include a flat, extended frequency response (20-20,000 Hz), high SPL handling capability (144 dB) and a wide dynamic range (124 dB).



The AT2020 comes with a pivoting, threaded stand mount. It requires 48V phantom power, which may be provided by a mixer/console or a separate, in-line source. Output is via a low-impedance, 3-pin XLRM-type connector.

Contact Audio-Technica U.S. in Ohio at (330) 686-2600 or visit www.audio-technica.com.

Moseley Has Hitless At-Bat

Moseley Broadcast officials presented a paper, "Hitless Space Diversity STL Enables IP+Audio in Narrow STL Bands," as part of the Broadcast Engineering Conference at the NAB.

The company says HD Radio poses a challenge to STLs, requiring the ability to trans-

port an Ethernet channel at 300 kbps alongside a 44.1 kHz sampled AES digital stereo pair and ultimately fit them into a 300 kHz STL channel.

"This requirement is only possible with latest-generation digital STLs operating with very high efficiency, e.g. 128 QAM," Moseley stated. "As QAM rates are increased, also is the sensitivity to multipath. 'Hitless' switching enables real-time space diversity antenna systems to combat instantaneous multipath fading on microwave paths that commonly occurs in spring and fall."

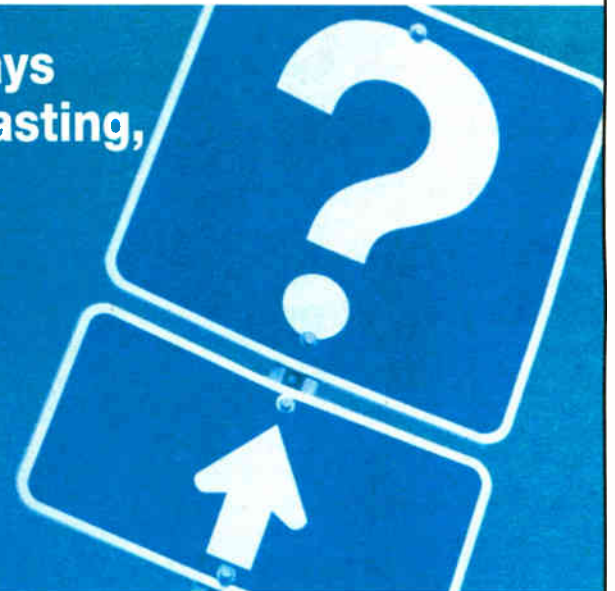
Moseley's paper offered a "hitless" switched transfer panel that completes a space diversity protected STL link, which enables reliable link implementation at 128 QAM. The paper can be downloaded from the company's Web site; click on Downloads, then White Papers.

Contact the company in California at (805) 968-9621 or www.moseleysb.com.

How to outwit, out-maneuver and out-perform your competition.

Every Automation Company says they do Voice Tracking, WANcasting, Satellite Feeds, the basics. But, does everyone support:

- ✓ HD Radio (High Definition)
- ✓ SPS (Secondary Program Service)
- ✓ PAD (Program Associated Data)
- ✓ RDS/Datacasting
- ✓ Digital Logging
- ✓ Audio over IP (e.g. RTSP)
- ✓ Streaming/Content Insertion



Sure we know automation, but our expertise just starts there.

What Solutions Are You Looking For?



"Our radio program is syndicated nationally and we're on seven days a week, which means we needed a system that was not only stable but also flexible. I feel like I've seen everything in the world of music and radio

but I've never worked with a system that's more creative than Prophet's NexGen. The only mistake you can make with this system is not using it."

John Tesh
The TeshMedia Group

When you ask the right questions, do you get the right answers?

It takes more than technology to build a station. It requires individuals with a common vision, working as a team. The strength of any team rests not only in its people, but in the companies they work with. That's why our focus is on the strong relationships we build with our clients. Our expert team of developers and engineers go beyond the basics to help you design the perfect broadcast solution for your station, whether you're looking for customized broadcast software, turnkey systems or modular software options. We even make it easy for you to research and buy at YOUR convenience, with our One Stop Online Shop!



Work Smart! Buy Prophet.

Yesterday's traditions, today's technology, tomorrow's innovations.
Technology doesn't have to be complicated.

RDL Has Serial Control, Audio Power Amps

Radio Design Labs has added two serial interface boxes to its line of products. These interface are designed to allow computer control (through RS-232) of their various products, but could also control other devices.

The SYS-CS1 controls all 32 switching functions of the RDL System 84 audio switching matrix. It also provides eight 0-10VDC outputs to control VCAs or other equipment. Finally, the SYS-CS1 can read eight sets of contact closures. Control and status are presented on an RS-232 port for connection to a computer.

Similarly, the RU2-CS1 converts an RS-232 port to eight 0-10VDC outputs and eight status inputs.

Also new: two audio power amplifier modules that output 20W RMS. The amplifiers include compressors that take effect as the amplifiers approach clipping to prevent audible distortion. The FP-PA20, shown, has an 8 ohm output, while the FP-PA20A has 70V and 100V outputs for distributed sound systems.

Contact the company in Arizona at (800) 281-2683 or visit www.rdl.net.



Eugene Novacek, president of ENCO said, "DAD5 with SQL meets an important need for our large television and radio customers to integrate scripts, playlists, as-played information and audio libraries into their enterprise-wide data infrastructure."



He said the importance of enterprise-level information management has grown as broadcasters have moved to large clusters, incorporated more remote operation and relied on multiple programming sources. By supporting SQL, he said, DAD5 allows rich data analysis, data mining, data security and maintenance benefits in radio studio environments.

Contact the company in Michigan at (248) 827-4440 or visit www.enco.com.

Valcom Offers Short AM Antennas

Valcom introduced a 94-foot center-loaded fiberglass antenna for AM broadcast use. These antennas are used throughout the world for ship- and land-based broadcasting. In the United States, they generally find use in FCC Special Temporary Authority operation while a full-sized antenna is built or repaired.

The company points out that short AM antennas suffer from driving points with high capacitive reactance and low radiation resistance. The high reactance can be cancelled with an inductor at the base (a "loading coil"), but the low radiation resistance remains. The low radiation resistance increases ground system and matching unit losses since high currents are required to put power into the radiation resistance. Valcom uses center loading in its antennas, increasing the radiation resistance at the base for more efficient coupling into the antenna.

A variety of antenna lengths are available. Each consists of a base section and a top section that includes the loading coil.

Contact the company in Ontario at (515) 824-3220 or visit www.valcom-guelph.com.

dMarc Broadcasting Debuts Revenue Tools

At NAB, dMarc debuted two sales tools for broadcasters.

RevenueSuite is a service for Scott Studios and Maestro customers that allows a station to fill available inventory with spots delivered via a secure, encrypted connection. The station's Traffic Manager tags unsold avails, which can then be dynamically filled with no intervention or reporting by the station.



dMarc also introduced SmartBarter, a program whereby stations or groups can upgrade Scott Studios or Maestro systems by a barter arrangement employing the RevenueSuite service that communicates with the dMarc Data Center by simple installation of the Comm Module.

The module also permits dMarc Tech Support to analyze systems in real time by gathering critical system information.

"RevenueSuite allows a station to generate revenue from otherwise unsold inventory while preserving the rate card integrity and confidentiality. Spots are sold on a market and overall listener basis. Stations have the right to audition and reject any spots in advance thus allowing complete control," said Executive VP Chad Meisinger.

dMarc also introduced enhancements to the Maestro version 3.3 software.

Contact the company in Texas at (888) 438-7688 or visit www.dmarc.net.

Arrakis Has New Consoles, WAN Service

Arrakis debuted two economical digital consoles, the 10-fader XMix-10 and 14-fader XMix-14.

The smaller-footprint consoles accept analog as well as AES/EBU and S/PDIF sources. Digital inputs auto-conform incoming 32, 44.1 and 48 kHz sample rates to an internal sample rate of 32-bit/48 kHz.

XMix-14 has 12 analog inputs and 10 AES3 digital inputs mappable to 14 fader positions via a DB-9 and PC interface. Remote-select switches on two six-position banks can be configured the same way. Mix-minus is included. P&G faders and EOA switches can be field-replaced. Audio and logic circuits are on the same internal connector for each input.

The Arrakis Connected Radio system is a wide-area network service that allows audio, schedule, log and text distribution among multiple stations, station personnel, remotes, program originators and remote talent nationwide for \$49/month. The station provides a PC with broadband Internet access at each site.

The company's Digilink Xtreme automation includes software for the on-air computer including a suite of additional software programs for the station (X-Edit, X-Sched, Digilink Free for training). It works with leading audio production, traffic and music scheduling software and

costs \$100/month.

Contact Arrakis in Colorado at (970) 461-0730, or www.arrakis-systems.com.

Comrex Access Uses Wired, Non-Wired Circuits

The Access audio codec from Comrex features BRIC technology, which enables broadcasters to use various Internet access points to broadcast real-time audio.



The company says Access provides voice-quality connections over IP connections, and uses wired circuits such as DSL, cable, POTS and Frame, as well as wireless circuits like Wi-Fi, 1XRTT, EDGE and 3G data networks. It is available as a rackmount or portable unit.

Additionally, Access offers a stereo mode that enables performance when used on managed data networks.

"Access ... works reliably over most data networks, including the public Internet," said Kris Bobo, vice president. "Using the public Internet to deliver real-time audio could represent cost savings and convenience for remote audio delivery."

Contact Comrex in Massachusetts at (978) 84-1776 or visit www.comrex.com.

Acoustic Builds With Modular

Acoustic Systems offers modular panels that allow design and construction of modern studios.

The company says prefabricated room modules often can provide equivalent and more predictable acoustical results, at lower cost and with quicker installation, than conventional construction. These methods can make the difference, placing state-of-the-art facilities within reach.

The company, based in Texas, has done acoustic and special application work since 1971. Its onsite National Voluntary Laboratory Accreditation Program-certified laboratory is used for analysis and improvements to its own products as well as independent testing for other companies.

Contact the company in Texas at (512) 444-1961 or www.acousticssystem.com.

Eventide Sees HD Radio Use For BD600

Eventide launched the BD600 Broadcast Delay, which provides two channels of 24-bit AES/EBU digital input or true differential analog input/output and up to 80 seconds of delay time.



The BD600 offers segmented delay dumps, sneeze button and numerical front display.

Ray Maxwell, VP of sales and marketing, said, "The BD600 has a unique HD Radio application. The MicroPrecision delay mode allows up to 10 seconds of delay to be adjusted in one-microsecond increments to synchronize the analog and digital audio for seamless transition. Delay is adjustable on air and ramped in and out with clean transitions with no audible artifacts."

Contact the company in New Jersey at (201) 641-1200 or visit www.eventide.com.

ENCO Announces DAD5 Support Of SQL

ENCO Systems announced support of SQL-based database management platforms in its DAD5 digital audio delivery product family.

DAD5's SQL option lets broadcasters integrate audio libraries with enterprise-level systems. With SQL, DAD5 data and audio cut libraries are stored in and controlled by enterprise systems such as Microsoft's SQL Server 2000.

You can measure...

with the best monitor and the most accurate test set.



The FMM-2/FMS-2 series monitors provide an even greater degree of measurement than ever before... You can measure S/N below 90 dB, You can measure crosstalk below 85 dB, You can measure separations of better than 70 dB, You can measure frequency response to better than 0.25 dB, You can measure distortions to lower than 0.01%, and much more... Our uncluttered panels and autoranging voltmeters make these measurements a dream.



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Call, write or FAX for more information on Belar AM, FM, Stereo, SCA and TV monitors

Eimac to Debut Triode for FM Broadcast

The Eimac division of CPI says it is in the final stages of development on an air-cooled triode for FM broadcast service.



The new tube, marked 3CX30,000A7, is intended for 40 kW in class C. Its cooler uses Eimac's ripple-fin technology and incorporates the high-output, high-mu grid from the 3CW40,000A7 water-cooled triode already delivered to some customers.

Contact Eimac in California at (650) 592-1221 or visit www.cpii.com.

Wattchman Goes Digital

The Coaxial Dynamics 81095 Wattchman power monitor/alarm has two liquid crystal displays that show forward and reflected power. The unit also directly reads VSWR.



Should the RF load fail, resulting in excessive reflected power, the Wattchman will sound an audible alarm and open a transmitter interlock within 15 milliseconds to avoid further damage to the load and transmission line.

The Wattchman includes amplified DC outputs and a remote reset input to interface with a remote control system.

Contact the company in Ohio at (440) 243-1100 or visit www.coaxial.com.

Sabre Updates Catalog

Sabre Towers promoted the third edition of its Sabre Site Solutions product catalog, which includes a range of products from pre-engineered lightweight towers to tower components and accessories.

The tower section of the catalog includes detailed charts that provide wind speeds, foundation designs and member sizes for each size and type of tower offered.

Contact the company in Iowa at (712) 258-6690 or www.sabre.com.

Aeromax-HDFM Is By Linear Acoustic

The Aeromax-HDFM Multichannel Digital Processor provides multiband processing for FM and HD Radio, plus 5.1-channel SRS encoding

for surround-sound broadcasting. It was shown in the SRS Labs booth.



Manufacturer Linear Acoustic says the unit provides separate multiband processing for up to two supplementary audio channels. The radio processor also enables stations to deliver 5.1 surround content that can be decoded by available surround decoders, including Circle Surround, Dolby Pro Logic, Dolby PLII, DTS Neo 6 and Harman Logic 7.

The unit features audio processing meters on the display's top level and a composite spectrum analysis on the bottom.

Contact the company in New York at (212) 315-9551 or www.linearacoustic.com.

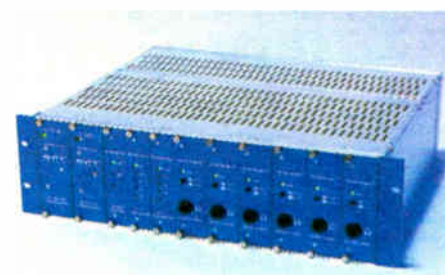
APT Adds Codecs, Has New Owners

Audio Processing Technology Ltd. displayed several hardware and software implementations for its apt-X audio data compression algorithm. One was the new WorldNet Oslo, shown.

A modular, multiple channel audio codec, it transports audio and data over digital networks such as T1, E1, TCP/IP and ISDN. System architecture is flexible to allow customization and expansion, says the company.

APT unveiled an expanded feature set on the WorldNet Rio. In addition to Standard and Enhanced apt-X algorithms, it incorporates MPEG Layers II and III for compatibility with other codecs.

The company also announced that venture capital investment enabled a management buy-



out from Solid State Logic. The purchasers are two venture capital firms plus Managing Director Noel McKenna and Commercial Director Jon McClintock. APT announced the buyout in May, following four months of negotiations with England-based SSL.

According to McClintock, the move will allow APT to "significantly expand."

Contact APT in Northern Ireland at 011-44-28-9037-1110 or www.aptx.com.

XR50
50 kW AM Digital Transmitter

New Nautel 50 kW AM Transmitter

Small, simple, field proven.

Quick Specs

- Extra headroom for hybrid HD Radio and full power AM
- Plug-and-play integration with Nautel's NE IBOC HD Radio signal generator
- 140% positive peak modulation
- 8,000 peak reflected watts, 1.5:1 VSWR at 50 kW, 100% modulation
- Eight load sharing, hot-pluggable power modules combine to deliver up to 60 kW
- Dual DDS exciters with automatic changeover
- Compact design (53" W x 72.5" H x 41" D) is ideal for tight spaces
- Internal transformer (mounted horizontally)
- New 12 kW and 25 kW XR transmitters also available

The fourth generation of Nautel's 50 kW AM transmitter provides proven reliability at an affordable price, and supports both HD Radio™ and DRM. The XR50 is over-engineered to provide many years of trouble-free service, even under harsh operating conditions.

Power modules are hot-pluggable and can be removed and replaced without any interruption in service. For even greater redundancy, the XR50 includes a complete standby DDS exciter and modulation encoder that automatically takes over when it detects a problem.

The 240 x 60 LCD graphical user interface, advanced alarm system, 128-event log and on-board real-time clock make operation,

troubleshooting and system monitoring easy. The XR50 is also designed to allow extended periods of unattended operation, making it a good choice for remote or unmanned sites.

The XR50's fault tolerant design even accommodates problems that occur in the antenna system. It requires no manual tuning or adjustment, even with an antenna mismatch of up to 1.5:1 VSWR at 50 kW with 100% modulation.

With over 84% efficiency and low maintenance costs, the XR50 is extremely cost effective to own and operate. And its compact rack (53" W x 72.5" H x 41" D) is ideal for sites with limited space.

Contact Nautel for details.

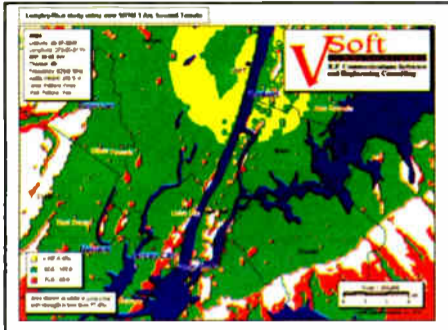
Phone: (207) 947.8200 Fax: (207) 947.3693
info@nautel.com www.nautel.com
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SIMPLY THE BEST ENGINEERED TRANSMITTERS

V-Soft Adds SRTM Data

V-Soft debuted 3 arc second Shuttle Radar Topography Mission data integration into its Probe 3.0 software.

According to President Doug Vernier, "SRTM data includes buildings, mountains and other topographic features, permitting very accurate signal coverage prediction. We have SRTM data for the United States, Mexico, Central and South America, the Caribbean and the lower two thirds of Canada."



V-Soft also introduced an on-channel booster analysis module for Probe v3.0 that displays time delay with interactive operation, allowing the user to specify delay and observe the results on screen, thus minimizing main/booster overlap interference. An additional new Probe 3.0 module integrates 2000 census MSA and urban area boundaries along with new high-resolution state and county boundaries.

Contact the company at (800) 743-3684 or visit www.v-soft.com.

TransLanTech, BW Team for a Sequel

TransLanTech Sound displayed its new Ariane Sequel multiband digital audio leveler.

Manufactured by Broadcast Warehouse in collaboration with TransLanTech Sound, the Sequel follows in the footsteps of its analog predecessor, the Ariane Stereo Leveler.

"The Ariane Sequel has a digital audio path, optional matrix mode, stereo or independent mono mode, TCP/IP, RS-232 or contact closure remote control and functions seamlessly as a preprocessor to any audio processor," said co-owner David Reaves.

The Sequel is built upon Broadcast Warehouse DSP-X technology and targets broadcast, production and mastering applications where audio levels of an unknown quantity need to become known. Features include savable user presets, analog and AES/EBU inputs/outputs, peak and RMS input/metering and upgradable firmware.

Contact TransLanTech in New York at (212) 222-0330 or visit www.translantech.com.

Scoop E-Z Has GSM Module Option

ATA Audio promoted the Scoop E-Z, portable audio/codec mixer for live broadcasts.

The Scoop E-Z is intended for applications such as live broadcasts, two-way interviews, talk shows, sports and news broadcasts, wireless remotes and remote contributions to studio discussions.

"The Scoop E-Z is now available with a tri-band



GSM auto detect module. This complements its ISDN and POTS auto answering modes making it versatile for worldwide use," said Sales Manager Michael Morris.

The Scoop E-Z also has two mic/line inputs, 48/12 phantom mic power, compressor/limiter, battery or external power, lightweight, backlit LCD display and built in keypad.

Contact the company in New Jersey at (973) 659-0555 or visit www.ataaudio.com

Rackable UPS Can Go on the Road

Superior Electric introduced a series of 19-inch rack-mount UPS for mobile applications.

Based on the SEG series, new models include ruggedized battery pack modules that the company says withstand severe vibration and shock from road and travel conditions. Director of Sales Mike Miga said,

"These new models are ideal for use with generators as output frequency (50 or 60 Hz) is generated internally by the UPS.

Therefore, any generator frequency variations will not cause the UPS to operate from its batteries."

Models are available in 120 and 230 VAC inputs and in power sizes of 1, 2 and 3 kVA. All support the addition of optional external battery/charger packs.

Contact the company in Connecticut at (860) 585-4552 or visit www.superiorelectric.com.



Radio Systems Boards Go Digital

Radio Systems exhibited the Millennium Digital series of consoles, featuring analog or digital input and sample rate conversion on each channel, analog or AES/EBU digital outputs, 32-bit resolution and up to 10 programmable mix-minus outputs and 10 extra auxiliary output busses.



Daniel Braverman, president of Radio Systems, said, "All previous Radio Systems RS and Millennium series consoles are fully upgradeable to Millennium Digital. The Millennium Digital also has RS-232 interface to third party equipment and CRT companion metering/timer and setup display."

The company expects to begin shipping the console this month.

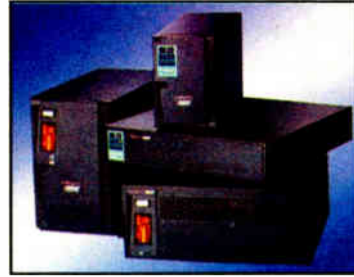
Contact the company in New Jersey at (856) 467-8000 or visit www.radiosystems.com.

Staco UniStar Sx Is Online UPS

Staco Energy Products offers the UniStar Sx Series, shown, a new single-phase online UPS product that isolates and conditions incoming power before it is distributed to protected equipment. The company says this eliminates the manual resets required of digital equipment in unprotected circuits.

The series is available in tower and rack-mounts and in sizes from 700 VA to 3,000 VA. Unistar Sx offers remote monitoring and diagnostic capabilities

through an SNMP adaptor or its own power management software.



Staco also debuted the UniStar IIIA Series single-phase online UPS, which features protection over a wide input voltage range at an affordable price. And it displayed the Firstline CPS power management system, which it says fills a gap between UPS systems and traditional power conditioners.

Contact the company in Ohio at (866) 266-1191 or visit www.stacoenergy.com.

Clear Channel Satellite Exhibits

The satellite division of America's largest owner of radio stations exhibited at the NAB show, promoting an array of solutions to backhaul, uplink and downlink issues.



The XtremeSat mobile antenna was of interest for managers and engineers planning last-minute remotes. Clear Channel Satellite also offers uplink and downlink equipment for rent or sale; it offers shared (multiple channel per carrier) and independent (single channel per carrier) spectrum space on an annual or as-needed basis.

Contact the company in Colorado at (800) 345-8728 or visit www.clearchannelsatellite.com.

Antennas, Combiners Top Dielectric Lineup

Dielectric's RF Scout is a single-line VSWR monitoring system that monitors forward and reflected power, calculates true VSWR and alarms locally or remotely during overpower conditions. It also measures line pressure and line temperature. It's RS-232 and Web accessible via FTP, HTTP or Telnet.



The DCR-XS high-power FM side-mount antenna, shown, previously made of brass and bronze, is now available in stainless steel.

The company promoted the DFC-500 low-power (5 kW) constant impedance combiner, its HDR Dibrad Combiner and DCR-M Series with radome, a circularly polarized broadband array with a power rating of 18 kW per section, stackable to 16 sections.

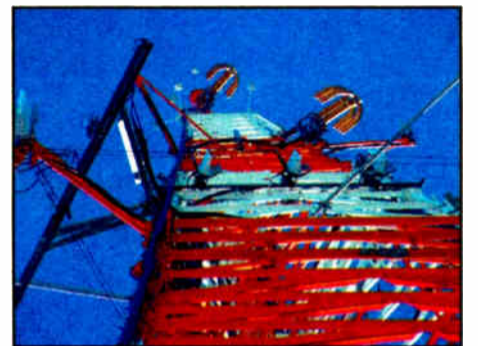
The HDR-SC3 Switcher Combiner combines FM analog and digital signals for HD Radio.

Available in 3 dB, 4.77 dB and 6.0 dB mid-level combining as well as 10 dB, the HDR-SC3 has a digital signal injector and by-pass switch. During injector failure, the switches allow either transmitter to be directed to the main or standby antenna while the other is switched to the dummy load.

Contact Dielectric in Maine at (800) 341-9678 or visit www.dielectric.com.

ERI Features Dual-Input Antenna

Electronics Research displayed a line of stand-off mounting poles for both omnidirectional and directional FM and TV antennas. The production version of the ERI Lynx Series Dual-Input FM Antenna, which provides a low-loss method to combine and transmit simulcast analog and IBOC FM signals, was featured.



ERI displayed SHPX and MPX Series Rototiller FM antennas, and the 1080 Series Master FM Antenna. The company also featured RF component products, including the Dura-Patch and QuickPatch coaxial patch panels, motorized coaxial and waveguide switches and directional couplers. The company also released its 7.0 version of its FM and TV antenna planning system software.

Contact ERI in Indiana at (812) 925-6000 or visit www.eriinc.com.

Mager Gets a Rise Out of Custom

Mager Systems was on the NAB floor with suites and photos of its custom cabinetry work.



On display was an example of the company's ability to do special projects: a talent rack module that disappears down into the tabletop when not in use. The motorized module, designed for a Mager customer, can be raised or lowered via a wireless remote control.

Mager Kizziah demonstrates in the photos.

Contact the company in Arizona at (623) 780-0045 or www.magersystems.com.



Thank You!

The entire crew at Heil Sound Ltd. are very proud and honored to receive the prestigious "Cool Stuff" award for the Heil PR-40



John Casey assoc. publisher Radio World and Paul McLane editor in chief/US Radio World present Bob Heil with the "Cool Stuff" award.



Now it's officially time to get rid of those old mics and get a PR-40

There's still room in the box!

Ebay is a registered trademark of Ebay, Inc.



Overheard at NAB

Compiled by Scott Fybush and Jackie Broo.

"I like to think of it more as NAB@RTNDA, not the other way around."

— RTNDA Chairman Bob Priddy.

Although acknowledging that his group's show floor at the Hilton is smaller than it used to be, he says

news managers don't feel dwarfed by the much larger

gathering next door at the Las Vegas Convention Center.

"The big development for us was ContentDepot, where NPR will be distributing all our new programming on a file-based system, either streaming files for live or files for later playback. A lot of us are looking to upgrade, we've got digital on the transmitter, digital coming in from NPR, and this is the perfect opportunity for upgrading studio facilities."

— Jim Hereford
Chief Engineer

WUWR/Wyoming Public Radio

"Enthusiasm has been picking up now that we see radios coming out."

— Jeff Jury
COO
Ibiquity Digital

"It's good to be here. Actually, it's good to be anywhere outside my home."

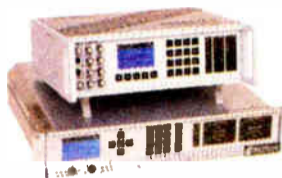
— Jim Taricani, WJAR(TV)

Providence reporter, speaking at RTNDA's kickoff breakfast days after a judge released him from four months of home confinement for refusing to reveal the source of a videotape that helped uncover a City Hall corruption scandal.

Musicam USA Upgrades Software

Musicam USA told attendees about software upgrades for its NetStar, RoadStar, SuperLink and TEAM products.

NetStar has two rack-mount models, the 300 and 500. Both are capable of bidirectional stereo audio over IP via Ethernet, and ISDN operation, support for MPEG 4 AAC, MPEG 4 AAC-Low Delay, MPEG 1 and 2 Layers 2 and 3, G.722, G.711 and PCM uncompressed audio (over IP networks of sufficient capacity).



NetStar now supports multicast and contains a variety of new custom setup options. RoadStar is a portable four-channel mixer supporting the same algorithms and new features as the NetStar; both are pictured. RoadStar operates over IP or ISDN.

SuperLink is a rack-mount STL and audio/data gateway that can connect to T1, E1, ISDN, X.21 and V.35 transmission networks. It can stream audio over LAN, WAN, DSL or ATM. Audio may be received over T1 or E1 and streamed via SuperLink. TEAM is a T1 and E1 multiplex transmission system consisting of seven hot-swappable modules capable of sending/receiving six stereo or 12 mono program feeds. SuperLink and TEAM now support the J.42 algorithm and multiple sample rates and data rates for PCM (uncompressed) linear audio, as well as MPEG 2, MPEG 3, G.722, J.41 and J.57.

Contact the company in New Jersey at (732) 739-5600 or visit www.musicamusa.com

Digigram Plugs Into USB

The UAX220, shown, is a USB audio interface for broadcast and other pro audio applications. It uses USB 1.1 and is suitable for broadcast journalists and audio engineers requiring a plug-and-play device for multiple computer systems.

Features include 2/2 balanced analog I/Os on Neutrik XLR connectors, 24-bit/48-kHz performance, 1/4-inch Neutrik headphone output, with a dedicated output stage for low-impedance headphones. The UAX220 offers zero-latency direct monitoring.



The computer automatically recognizes the UAX220 as a USB audio-compliant device, rendering it immediately operational with DirectSound, Core Audio and Linux ALSA management. No specific driver installation is necessary.

ASIO management is possible via a third-party ASIO-to-USB audio interface. Software based on Digigram np SDK can manage the UAX220 through the Virtual PCX audio engine.

Volume and monitoring buttons on the device enable fast, intuitive control.

The company also promoted its eXaudi XIP882, which combines audio processing, routing, coding/decoding and IP streaming in a sin-

gle device.

The technology makes it possible to integrate radio automation applications and audio transport over IP networks within a scalable, manageable and integrated system.

Contact (703) 875-9100 in Virginia or www.digigram.com.

ESE Knows Network Time

New master clocks and time displays highlighted ESE's offerings. The company introduced the ES-185U/NTP Master Clock/Time Code Generator and NTP (Network Time Protocol) Server. The unit can synchronize network time, and displays that time through the new NTP time display.



The Master Clock can be configured and upgraded through supplied software and USB connection (configures set-up features). ESE also introduced the 700 series line of programmable event controllers, which allow users to set up simple automation of events. These units can be programmed with a keypad or PC.

Contact the company in California at (310) 322-2136 or visit www.es-web.com.

JK Audio Has Digital Hybrids

JK Audio's PBXport digital hybrid, shown, allows users to send mic- or line-level signals into a PBX phone system while maintaining separation between their voice and the caller. The balanced XLR output jack contains only the



caller's voice, allowing full-duplex voice conferencing through the existing PBX phone system without echo and feedback.

PBXport provides connections for a microphone, headphones, mixer, telephone handset and the user's telephone set. The company says the echo canceller algorithm achieves separation without setup or sending a noise burst down the line. PBXport retails for \$825.

JK Audio also debuted Innkeeper 2, a two-line, rack-mount digital hybrid, which features Auto-Answer/Auto-Disconnect for use in IFB and monitoring applications. It retails for \$1,495.

Contact JK Audio in Illinois at (815) 786-2929 or visit www.jkaudio.com.

Klotz Adds Octo-Bus Digital Network

Klotz says its new digital audio network, the Octo-Bus, carries audio in real-time, control data and power over Cat-5 cables.

"The synchronous bus protocol allows transmission of up to eight simultaneous channels of bi-directional digital audio including control data and system monitoring without any audible latency," it said.

The network can be configured in a star or daisy-chained setup without routers or hubs. Klotz said it also allows users to expand their Klotz Digital Vadis platforms.

Separately, the company said its new Aeon on-air console is available with updated software and can be obtained in a 20-fader version. It was

previously announced as eight, 12 or 16 faders.

Contact Klotz Digital America in Georgia at (678) 966-9900 or visit www.klotzdigital.com.

SAS Has Smaller Rubicon

Sierra Automated Systems came to NAB with Rubicon SL, a console control surface for smaller-market stations or less-demanding studios. Like the Rubicon, it offers integration with the SAS 32KD digital audio router/mixer and SAS Connected Digital Network, and stand-alone operation with upgraded RIOLink mixer/router.



Features of Rubicon include microphone and effects processing, EQ, leveling and compression and de-essing, optional LCD display for metering, clock and timer. Intercom and talkback integrate with SAS' intercom system.

The company showed the RIOLink remote I/O mixer/router, which operates stand-alone as a 32 x 32 router and with Rubicon SL as a stand-alone router and mixer; and it exhibited the ANI-750 Audio Network Interface for the 32KD, which links multiple frames via fiber, using a dual counter rotating ring. It provides static and dynamic sharing of up to 750 channels.

Contact the company in California at (818) 840-6749 or www.sasaudio.com

DaySequerra Monitors HD With M4, M2

DaySequerra, part of the ATI Group, introduced two monitors for HD Radio broadcasters.

The M4 is a rack-mount HD Radio tuner for monitoring of AM, FM and HD broadcast signals. The tuner features synthesized push-button tuning for the AM and FM bands, balanced analog audio outputs and a transformer-isolated AES3 audio output. Its vacuum fluorescent display shows station data such as channel, HD MPS and multicasting information.



The M2.0 Modulation Monitor adds 58-segment LED displays for carrier modulation level (percentage modulation) and demodulated audio levels. A vacuum fluorescent display shows station data such as channel, HD MPS and multicasting information. The M2.1 version, shown, adds analog monitoring capabilities such as injection levels for stereo pilot, stereo subcarrier and SCA subcarriers; it also adds indications of synchronous AM noise and multipath. A rear output is provided for external subcarrier decoding.

The M2.2 option adds a networking port and a PC-based application that permits remote control and display of most of the front-panel capabilities of the monitor along with the addition of HD measurements such as BER and display of multicasting and PADS data.

Contact the company in New Jersey at (856) 719-9900 or visit www.daysequerra.com.

STAC Up Huge Savings!

Comrex STAC (Studio Telephone Access Center)

The Comrex Studio Telephone Access Center (STAC) puts you in control of your talk shows, call-ins and phoners with great sound, ease of operation and a scalable configuration. STAC incorporates a pair of Comrex high-performance digital hybrids with automatic audio level control. The result is a more natural-sounding telephone audio, even when conferencing multiple callers. A compact, rackmount mainframe houses the hybrids, the multi-line controller and all telephone and audio connections. The STAC6 is a 6-line system; the STAC12 is a 12-line system. Right now, BSW has two incredible special deals: Buy a STAC system and get an extra control surface for 1/2 price, or upsize your control surface from 6 to 12 for FREE! Call for details. Hurry, offers expire June 30th, 2005.

FEATURES:

- Studio/Producer Mode caller management
- Screener Mode simplifies screening and queuing
- Web browser call screening and control
- Automatically answers calls with custom message and puts them on hold
- Front panel LEDs indicate level status
- XLR Send input; XLR Caller 1 and 2 outputs
- Two stereo mini headphone jacks
- Aux DB-9 control output, momentary or latching

| | | |
|----------|---------------------------------------|-----------------|
| STAC6 | 6-line phone system | List \$3,200.00 |
| STAC12 | 12-line phone system | List \$3,900.00 |
| STAC6CS | Additional control surface for STAC6 | List \$600.00 |
| STAC12CS | Additional control surface for STAC12 | List \$900.00 |
| STACEK | STAC6 to STAC12 expansion kit | List \$900.00 |

LowestPrice@bswusa.com
OR CALL: 1-800-426-8434



Get More STAC From Comrex & BSW!

Buy a STAC system and get an extra control surface for 1/2 price, or upsize your control surface from 6 to 12 for FREE!



Eventide Broadcast Audio Delay

REDUCED PRICE!!

Protect your programming with the top selling delay from Eventide. The Eventide BD500-401 features 40 seconds of delay along with their patented automatic catch-up circuitry so your listeners won't miss a thing. A user-definable function to divide the total available delay time into several discrete segments protects against multiple obscenities that occur in succession. Get the BD500-401 at the lowest price of \$2,779. While supplies last! Now is the time to pick up the phone and call BSW.

FEATURES:

- 40 seconds delay time; exact digital readout of delay
- Cough button momentarily edits audio
- Quick-read bar graph to instantly confirm delay time left
- RS-232 port and dry contacts for remote control
- Balanced XLR analog I/O and AES/EBU digital I/O

Eventide

BD500-401 List \$3,395.00

LowestPrice only \$2,779!

Deluxe Fender PA System Package!!

The Passport Deluxe PD250 is a totally self-contained portable sound system complete with a self-powered 6-channel mixer and 2 speaker arrays co-developed with BOSE for amazing, theatre-quality sound! The PD250 features 250 watts at 8 ohms, digital reverb with remote bypass, send/return jacks, all at only 55 pounds!



BSW's exclusive monster package includes four microphones complete with cables and windscreens, two Fender heavy-duty speaker stands, two microphone boom stands with their own bag, and two additional straight mic stands. A great deal at BSW!!

PD250PACKAGE List \$1,555.00 **LowestPrice only \$899!**

CD Players Don't Get Any More PRO Than This...



The new Tascam CD-01U Pro is a professional slot-loading CD player designed to fit in 1RU, with balanced XLR analog, RCA analog and digital outputs. This compact professional model will save room in your broadcast equipment rack. Also available is an affordable unbalanced version - the CD-01U. Both players have an RS-232 control port available for programming with AMX and Crestron systems. They also feature MP3 playback, 20-second shock protection and pitch controls for flexible performance. Order today!

CD01UPRO w/XLR out List \$699.00 **LowestPrice only \$599!** CD01U wo/XLR out List \$599.00 **LowestPrice only \$499!**

FREE Pop Filter with EV RE20!

This venerable Electro-Voice dynamic on-air mic is a favorite of broadcasters worldwide. Its patented, Variable-D design is famous for eliminating bass-boosting proximity effect when close miking and its bass roll-off switch helps to shape low-end response. Frequency response is 45 Hz-18 kHz. The RE20's suspension shockmount is the 309A (sold separately and required to mount the FREE pop filter). And speaking of the FREE pop filter, you'll get the popular Popless VACRE20 with your order (a \$52 value), now through June 30th. Cool!

RE20 List \$798.00

LowestPrice only \$399!!

309A List \$178.00 \$99⁰⁰



JBL Powered Monitors

JBL's Linear Spatial Reference studio monitors are advanced, high-end listening devices, with Differential Drive technology and dynamic braking for extended low frequency response and low power compression; titanium composite high frequency devices; and carbon fiber composite baffles for low cabinet resonance. The LSR6325P offers 50/100 watts bi-amplification with a 5.25" woofer in a compact and affordable unit. Order today.

LSR6325P List \$399.00 each. **LowestPrice@bswusa.com**



Broadcast Tech Tip # 502

In determining market indicators for your financial analysis show, a videotape is one way to go. We've had better luck with the Magic Light Ball. Just ask, and this all-in-one device delivers its sage advice.

Digigram UAX220 USB Audio Interface



The UAX220 has been specifically designed for broadcast and other demanding pro audio applications. It features 2/2 high-quality balanced analog I/Os, a headphone output, zero-latency direct monitoring and USB audio compliance (it's powered through USB). Supported systems: Windows XP, Mac OS X, Linux.

UAX220 List \$445.00 **LowestPrice only \$439!**



5-Pack Headphones!!

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

HD202PKG List \$149.75 **LowestPrice 5 for only \$89!!**

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AEQ Has DR-100 Portable Field Recorder

AEQ debuted its DR-100 handheld digital field recorder, aiming at journalism and broadcast applications. The user can operate it with one hand and view the information on a large screen.

The DR-100 records in G.723, suitable for voice recording and maximizes the storage capacity, or MP2, a popular compression for broadcasting that allows accurate editing; it also serves as an MP3 player and recorder.



Recordings are made using its internal or external mics, or the user's own mic. A built-in receiver enables recording of FM stations. AEQ says music is recorded at CD quality.

The unit's Remote File Transfer Module enables the user to accomplish a point-to-point connection on a POTS line for file transfer, when using the RS-232 port in combination with an external modem. If this connection is interrupted, transfer is resumed at the point of interruption.

The DR-100 also includes an audio editor for cutting, copying and pasting. Accessories include a carrying case, stereo

line cable, USB cable and headphones.

Contact AEQ in Florida at (866) 817-9745 or visit www.aeq.es.

Prophet NexGen 101 Has Packages for Satellite Mode

Prophet Systems Innovations says its NexGen 101 software packages are designed to run a single radio station. Software packages are sold a la carte, allowing broadcasters to purchase what is necessary, with the option to add features as the station grows.

The core license runs a station in automated or live assist modes. It is required on NexGen 101 workstations and includes the ability to create and execute logs, basic audio element production, day of the week clock templates and audio backup/load utilities. Modules can be added to create multiple workstation configurations.

The Live Control Package is useful for

high-energy morning shows. Audio elements can be created or played outside of the log for random access or auto-play, and artist/song title information can be sent.



The Single-Source Satellite Package enables stations to run in satellite mode and automatically record satellite feeds, with automatic switching on and off of a satellite source to allow local spot insertion and time and temp announcements in staff voices.

The Multi-Source Satellite Package is similar to the Single-Source package but allows the station to run in satellite mode with up to three satellite inputs and automatically record satellite feeds. Additional packages include Scheduler101 and VoiceTRAC.

Contact Prophet Systems Innovations in Nebraska at (877) 774-1010 or visit www.nexgen101.com.

Dataworld Moves Transmitters With Mouse Click

FM Explorer, Dataworld's online visual FM allocation toolkit, lets you play "what if" in FM interference studies.

The toolkit maps station contours, interference free clear areas, prohibited overlap, international conflicts, and section 73.215 short-spaced areas. Eliminate a station, change its class, channel or location and watch the interference map change. The online analysis package is available by the hour, day, or month.

Contact the company in Maryland at (301) 652-8822 or visit www.dataworld.com.

Logitek Debuts Mosaic

The Mosaic series of digital consoles from Logitek Electronic Systems uses drop-in modules that permit users to purchase console configurations to meet their needs, the company says. Mosaic consoles are router-based, acting as control surfaces for the Logitek Audio Engine.



Features include multiple frame sizes, allowing configuration of consoles ranging from four to 24 faders. At least one color LCD screen on each module gives users meters, clocks, timers, delay information, text from the Audio Engine, downloaded bitmaps and other features.

The Fader Module consists of two P+G faders with color-changeable On/Off switches; color LCD screen that indicates input, effects and metering for each fader; talkback and Cue switches; multi-use function controls that permit input selection as well as access to bus assignments, input assignments, EQ and dynamics; direct access to five mix busses (additional busses available), and an input selector switch.

A monitor module and softkey module are available.

Contact Logitek in Texas at (800) 231-5870 or visit www.logitekaudio.com.

Sabre Towers

Sabre offers a complete line of towers, monopoles and tower components. In the tower industry for more than 25 years, Sabre towers are engineered with experience. Offering everything in guyed towers from a 12" face tubular lightweight tower

to an 84" face solid leg knock down tower, Sabre has a tower for nearly all broadcast applications.

Committed to customer service, Sabre offers quality products at competitive prices with the shortest lead times.



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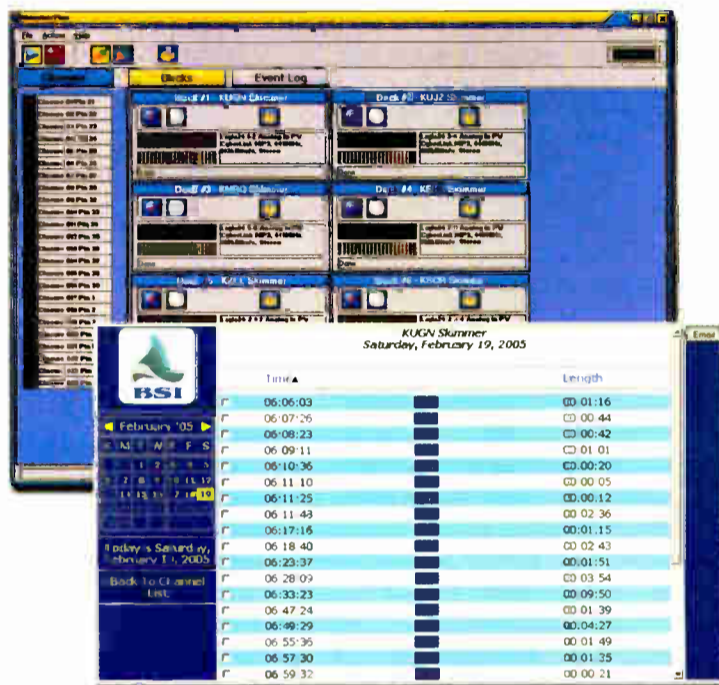
Professional Audio Skimming & Logging Software

SKIMMERPLUS

SkimmerPlus is a highly versatile tool for audio skimming and / or long-form audio logging of multiple audio sources.

Features Include:

- Remote Management
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- Support for various audio CODECS
- Assignable permissions for different users
- Record programs in segments for delayed broadcasts
- Simultaneously record compressed & uncompressed files
- Capable of recording multiple sources with a single Audio Science soundcard



AUDIOSCIENCE

- ASI audio cards seamlessly integrate with SkimmerPlus
- Many of the cards have on-board MP2 and MP3 playback, in addition to supporting various audio file types through software CODECS
- Digital or analog audio, even on the same card
- Pass through and record capabilities

Thousands of users have discovered how easy and versatile BSI software is.

Test and try before you buy!

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Overheard at NAB

Compiled by Scott Fybus and Jackie Broo.

"Manufacturers are presenting a better product. They seem to be, for a lack of better word, concerned about quality now, as in the past they let quality go downhill. But I think that HD has turned that around."

— Mike Murrell
WUOG(FM)
Knoxville, Tenn.

"People are sincerely looking for options; and they have money. I think I have a blister on each foot and I will need to buy a new pair of shoes."

— Tom Norman
Senior Project Manager
Burst Communications

"I bring four people. If we can bring back four (ideas) out of this, we're good."

— Robert Prasil
Owner
Idavend Broadcasting

"Now that's how knobs are supposed to be made."

— A TV engineer, examining Chuck Pharis' exhibit of vintage TV cameras and other gear. Pharis, who retired from ABC recently after 27 years, showed off a 1947 RCA TK-30A camera.

Dorough Shows Stereo AES Digital Loudness Meter

Dorough Electronics announced two radio-friendly additions to its line of audio metering and test and measurement equipment. The 12-AES Digital Loudness Meter is a stereo AES/EBU meter, compatible with 96 kb, 110/75 ohm inputs. It shares the same visual "arc" format as most of the company's other meters.

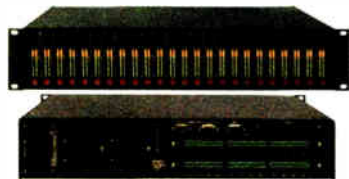
Dorough also introduced the RW-100 remote Analog/Digital control. The RW-100 gives phase indications, provides an overs counter, gives a bit stream corruption warning (for AES digital meters), peak hold, and expanded mode (.1 dB around "0") for setting reference levels. The RW-100 becomes the RW-200 when ordered in a vertical format.

Contact the company in California at (818) 998-2824 or visit www.dorough.com.

Ward-Beck Puts Digital Metering In Rack

A project for the Korean Broadcasting System headlined Ward-Beck's offerings for radio broadcasters at NAB.

The RLM24 Multiple Digital Audio Meter System, shown, puts 24 balanced AES/EBU digital audio signals in a 2RU package. Each of the 24 stereo bar graph displays shows VU and peak information at the same time. Each meter pair has a silence sensor, which activates an internal alarm and lights a flashing LED. The silence threshold is adjustable. The unit has redundant removable pow-



er supplies. It has the potential to add logging capability for advanced troubleshooting and diagnosis.

Ward-Beck also demo'd its AMS8-1 and AMS8-2 Eight Channel Audio Meter/Monitor Systems. They connect four digital audio outputs and, through eight LED Bar graphs, monitor signal activity. The AMS8-1 allows operators to listen to the audio signal through four speakers; the AMS8-2 adds a subwoofer and expanded LED displays. Both provide an AES signal output from a PCM input, a copy of a decoded AES signal (if the input is a Dolby signal) and an analog copy on a DB-25 connector.

Contact the company in Toronto at (800) 771-2556 or visit www.ward-beck.com.

ModSci Eyes IBOC App for Sidekick

Modulation Sciences showed its Sidekick Model SCA-186 subcarrier generator and discussed an innovative use for FM subcarriers developed by one of its customers.

President Judy Mueller said "One of the engineering managers from a major station owner in the Orlando market came up with the idea to use the audio subcarrier for backhaul in an IBOC digital environment."

The Sidekick uses a crystal-controlled oscillator to ensure frequency stability in its generator circuitry. The unit has its own modulation monitor, integrated audio processor and transmitter tuning aid; it includes a feature that allows users to loop the composite output of a stereo generator or STL through the unit, which automatically mixes the subcarrier into the composite mix for

further transmission.

Contact the company in New Jersey at (800) 826-2603 or visit www.modsci.com.

Videoquip Mixes It Up

New digital audio mixing, monitoring and processing devices were displayed at Videoquip's booth.

AVU-24 High-Resolution 2/4 Channel VU/PPM Meter displays audio level, phase and balance from any of three input sources (balanced analog, AES1 or AES2).



The ADM-8, shown, mixes four AES3 input channels to a main and monitor channel, and has a programmable cue function which can assign cue to either the headphone or monitor outputs. The ADM-1A AES/EBU Signal Processor routes, mixes, switches and ducks (audio over) two digital (AES3) inputs to two configurable digital outputs.

The company announced third-quarter availability for its AVU-8 High-Resolution 8 Channel AES3 VU/PPM Meter.

Contact the company in Ontario at (416) 293-1042 or visit www.videoquip.com

Superior Broadcast Offers New FM Line

Superior Broadcast Products exhibited FM series transmitters.

Company President Jimmie Joynt says the new line is frequency agile and can be delivered in power levels from 1800 to 30,000 watts. The company also showed its existing line of FM exciters, FME FM transmitters, its FMD series of Broadband circular polarized antennas and FMA High Power Broadband antennas.

Contact the company in Texas at (800) 279-3326 or visit www.superiorbroadcast.com.

AudioScience Takes CobraNet Modular

AudioScience's ASI2416 is a modular IRU CobraNet interface, part of a family of CobraNet products for audio networking in radio. It can be populated with four function-specific modules, allowing up to 32 channels of



analog or AES/EBU I/O and 64 relay-based GPIO outputs and 64 opto-isolated inputs.

Each module has an interchangeable connector portion that may be configured with a pluggable terminal block, StudioHub or a standard 50-pin connector interface compatible with AudioScience sound cards. Modules include the ASI1401 Analog Module with four stereo balanced inputs and outputs, ASI1402 AES/EBU Module with four AES/EBU I/O and the ASI1403 GPIO Module with 16 relay outputs and 16 opto-isolated inputs.

The base unit features 16 channels of CobraNet I/O and a Texas Instruments 32-bit floating point DSP that allows complex switching/mixing and broadcast features such as tone decoding. A graphics display on the front shows peak meters and network status.

The unit can operate in a tethered mode, connected to an ASI6416 CobraNet sound card with an Ethernet crossover cable; its features

become an extension of the ASI6416, allowing it to be used with automation applications.

Contact the company in Delaware at (302) 324-5333 or www.audioscience.com.

Telos/Omnia/Axia Tout Element, Surround and HD

Axia Audio debuted the Element Modular Studio Control Surface, shown, available in configurations supporting four to 32 faders. Features include modular design, multiple mix-minuses, phone and codec control, one-touch record mode



and customizable show options.

The company said it is the first radio console that can be configured to run either stereo audio or 5.1 surround programming. It also recently announced that WOR(AM) in New York is using the Axia system and that it had signed Pristine Systems as another Axia partner.

Telos, Omnia, Axia and Fraunhofer offered a demo of non-matrixed 5.1 surround for FM HD Radio. Audio was fed from the Axia booth with an ENCO DADPro32 system and mixed in discrete 5.1 surround using the Element. The signal was passed over a BE Big Pipe STL to the Telos/Omnia booth and encoded for surround by Fraunhofer IIS software, processed with an Omnia-6EXi HD+FM processor, and broadcast on an HD Radio channel using a BE exciter. A Visteon car radio modified by Fraunhofer decoded the over-the-air signal for 5.1 loudspeakers.

And Omnia announced a line of processors for those upgrading to HD Radio including the Omnia-6 EXi for FM and Omnia-5 EXi for AM and FM. The company said a Diversity Delay method simplifies and protects the broadcast signal of HD Radio for AM and FM, and an advanced new clipper design engineered to help eliminate intermodulation distortion.

Contact the company in Ohio at (216) 241-7225 or visit www.telos-systems.com.

OMT Automates Podcasting

OMT Technologies is promoting use of its iMediaLogger as a "solution to recording, packaging and transmitting content for radio broadcasters that want to offer podcasts."

Its iMediaLogger, it said, provides stations the means to podcast a show at any time. Broadcasters can record and upload a Podcast automatically to any Web site or FTP site in a variety of file formats and show lengths. Listeners subscribe and download the podcast content to a digital music player through the Net.

OMT also introduced the iMediaImport Module for its iMediaTouch digital audio and broadcast system. The module imports station content from sources including third-party multi-track editing tools, newsroom applications, FTP sites, network folders and NPR's ContentDepot. Using the "Cart Chunk" and id3 Tagging systems, users of iMediaImport can have content placed and titled into an iMediaTouch system.

Contact OMT in Canada at (204) 786-3994 or visit www.imediatouch.com.

Wheatstone Has Gen-6; Adds Audio Processors

Wheatstone added the Generation Six, shown, to its line of router-based control surfaces. It integrates with the Bridge Digital Audio Router and allows system-wide access to a station's on- and off-air audio resources via Cat-5 or fiber optic cable. Features include Ethernet protocol, VDIP configuration, X-Y controllers, eight-character controller displays, and more Aux sends and Preset options.



The company unveiled a line of single-rack space audio processors, which earned "Cool Stuff" honors. The two-channel/stereo audio processor provides analog/digital inputs and outputs, four-band parametric EQ, three-band compressor and tunable filters along with overall AGC, limiting and expansion. Settings can be stored and replayed as password-protected presets. The display includes input, output and gain reduction meters. Remote monitoring and operational control is possible using Ethernet-enabled GUI software. The Web site is www.vorsis.com.

Audioarts Engineering enhanced its R-55e analog air console. Features include illuminated LED switches and a flip-up meterbridge for access to I/O connectors and logic programming dipswitches.

Also, the new D-75 audio mixer is a modular digital board for small to medium markets. It has four stereo busses, dual-domain outputs, sample rate conversion on digital inputs and interchangeable input module daughter cards for A-to-D field switches. Features include a hinged meterbridge, new LED meter displays with full-scale digital peak plus VU metering, LED-lit switching and an automatic timer, machine interface and clock.

Contact the company in North Carolina at (252) 638-7000 or www.wheatstone.com.

Innova Is New Omnirax Line

Omnirax offered a suite of its pro broadcast studio furniture and discussed its ability to modify existing models or create custom furniture to the user's specifications.



The company now offers the Innova line of furniture, which combines modular components with custom shapes to fit particular requirements. It debuted in January at Infinity in San Francisco facility, an eight-room suite of on-air and production studios. This line of furniture is the result of a creative collaboration between Omnirax and Phil Lerza, the chief engineer for KFRC(AM/FM), KBAY(FM) and KYCY(AM).

Contact the company in California at (800) 332-3393 or www.omnirax.com.

Shively Has New Hybrid, Filter Designs

Model 2600 interdigital bandpass filters were part of the emphasis by Shively, which said the filters offer virtually the same performance as 2500 Series resonant cavity designs but at a fraction of the size.

Also on display were Model 2630 interdigital branched combiners; the supplier said these provide the performance of equivalent resonant cavity-style combiners, but take up less than one-third the space. Also on the space-efficient theme, Model 2640 are interdigital balanced modules that provide perfor-

mance in the smallest possible package, and are said to be compatible with all HD Radio combining techniques and ideal for broadcasters with low-power requirements and space limitations. New hybrid designs enhance compactness while providing improved VSWR specifications, Shively said.

And Model 5600 digital injectors combine digital and analog streams for HD Radio high- and mid-level combining strategies. Injectors are available for 6, 7, 8, 9 and 10 dB coupling; each covers the entire FM band.

Contact the company in Maine at (207) 647-3327 or www.shively.com.

Inovonics Freshens RDS, Receiver Line

Inovonics exhibited its 702 RDS/RBDS Mini Encoder, a second-generation basic radio

data encoder. A Windows interface and USB connectivity are provided so that stations can put RDS service flags, IDs and text messages on the air.



Also promoted were the upcoming Model 631 FM Rebroadcast (Translator) Receiver, shown, a redesign of the company's Model 630. It offers synthesized tuning with secure locking; composite/MPX and demodulated stereo audio outputs; wide/narrow IF bandwidth selection to reject adjacent-channel interference; and local and remote alarms for low signal, loss of audio and excessive multipath.

And the company plans soon to begin shipping the Model 713 RDS/RBDS Full-Function Encoder with TCP/IP, scrolling and static text.

Contact the company in California at (831) 458-0552 or www.inovon.com.

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Workbench

Radio World, June 22, 2005

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

Bargains You'll Find on the Web

by John Bisset

Thank you readers for telling Radio World how useful our online archived *Workbench* articles have been to you.

If you want a quick reference from a previous column, check what our editor has archived at www.rwonline.com and click on *Workbench*. We've had several

Just as the Web offers reference data for engineers, it has also provided links to some great products.

Southern Broadcasting Engineering Manager Randy Kerbawy sent in such a link to share. It's a desoldering tool manufactured by Tenma (www.tenma.com) and sold by MCM Electronics (www.mcmi-none.com).

tool has been on for a while. But despite the heat, it just keeps on working.

Years ago, I convinced a GM to let me buy a \$375 desoldering tool, the cheapest I could find at the time. We were modifying a bunch of PC boards; given the work at hand, the expense was justified. But at the price of the Tenma model, it's worth having these desoldering

★ ★ ★

Randy also found an interesting item at the local electrical supply shop in Beckley, W.Va. Take a look at the web site for Elk Products, www.elkproducts.com. You'll find several items of interest to the broadcast engineer; one that will really catch your attention is a six-pack of relays, part number 912B-6.

The circuit board holds six 12 or 24 volt relays, complete with LED indicators. The relays have Form C contacts, rated at 10



Fig. 1: A reader found this handy desoldering tool for under \$15.

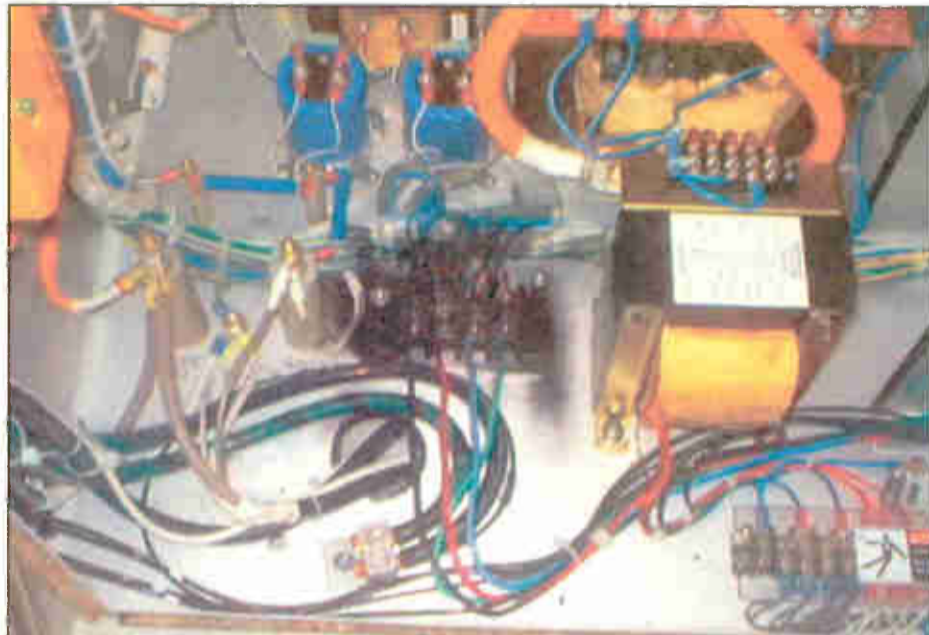


Fig. 2: Ken Sleeman uses a digital camera to help get inside the transmitter.

DOEs supplement their monthly newsletters to their chiefs with tips they've found here. RW is glad to provide this resource. Thanks again for your positive comments.

★ ★ ★

The tool is MCM part 21-8240. The best part is that it costs just \$14.95.

Randy has used this solder sucker for some time and says it works well. It also does a decent job on double-sided boards.

The only drawback he's found is that the plunger tends to get fairly warm after the

tools both in the shop and the toolbox. Thanks, Randy, for sharing this budget-conscious timesaver.

If you're still using solder wick or a manual plunger-type desoldering tool, it's time to upgrade. You'll be amazed at the improvement in your efficiency.

amps. Randy suggests this board will make a good relay interface between a remote control and a transmitter, when interfacing to older rigs.

Elk Products also supplies phone-line surge protectors, power supplies, sirens, See OUCH. OUCH., page 29 ▶

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AutoSwitch eliminates that annoying "digital echo" in DJ headphones by switching the headphones from Air to Local audio when the mic is on.

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Ouch. Ouch.

► Continued from page 28 and phone-line monitors that could find their way into a radio station.

Randy Kerbawy can be reached at engineering@103cir.com.

★ ★ ★

At the BGS Expo in Dayton, held a couple of days before the Dayton Hamfest, I had the opportunity to talk to 80 engineers about transmitter site maintenance issues.

A points brought up by one of the attendees was the use of digital cameras in the world of transmitter sites.

Tim Guentz, a regional engineer with NRG Media, expanded on this. He uses his digital camera to take a look at things in places his head won't go, like up the tube chimney of an Continental 816R transmitter (to look at the doorknob cap and HV cable that live up there).

Another advantage to the digital camera is that if he can't aim the camera, Tim just snaps pictures until he gets the one with a good image. It sure beats taking a tube cavity apart.

Another use is in taking pictures to send to the transmitter field service department. Fig. 2 shows a shot used by Ken Sleeman, transmitter site supervisor for Bonneville in Washington. The photos also help paint a picture for management as to what went wrong. Thanks to Tim Guentz, who is at tguentz@waitradio.com, and Ken Sleeman, at ksleeman@bicdc.com.

★ ★ ★

We'll wrap up this issue with a photo of a great gift for that special person in your life.

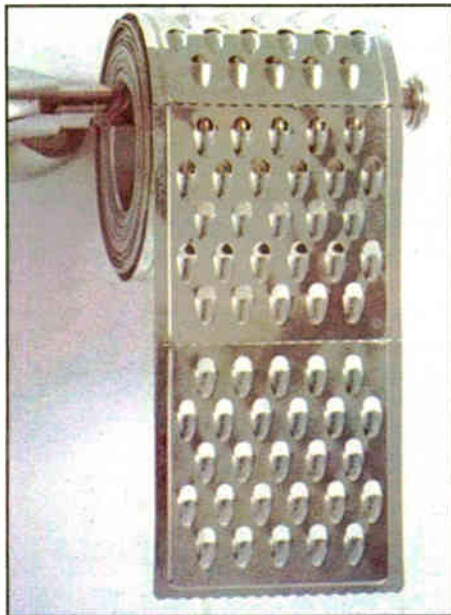


Fig. 3: A gift idea for that co-worker who eats nails for breakfast.

We've all worked with them. You know; the one who's never satisfied with the audio, or who doesn't understand that tubes do eventually need to be replaced, or the dead-beat contract client who won't pay his bill. No Web address where you can order this — yet. Stay tuned.

John Bisset has worked as a chief engineer and contract engineer for more than 30 years. He is the northeast regional sales manager for Broadcast Electronics. Reach him at (571) 217-9386, or jbisset@bdcast.com.

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

DRM Proponents Showcase System

by Scott Fybush

Don Messer of the IBB had to remind participants that, for all the talk of Ibiquity's HD Radio system, there are other formats for digital radio in active use around the world.

"I'm the only one not talking about HD Radio today."

He was speaking this spring at a presentation on digital radio during the Broadcast Engineering Conference of NAB2005. Messer's topic was the status of the international Digital Radio Mondiale standard.

While DRM testing thus far has focused largely on international broad-

casting, both in the shortwave bands and on high-powered mediumwave transmitters in Europe and Asia, Messer said the DRM family of standards soon will be expanded to include frequencies above 30 MHz.

That encompasses not only the familiar 88-108 MHz FM band, but also the Eastern European FM band in the 60 MHz range and the Japanese FM dial from 76-90 MHz.

Messer, director of the International Broadcasting Bureau's Spectrum Management Division, updated engineers on the progress of worldwide tests of DRM, which have taken place in Canada, Mexico, Brazil, New Zealand, China,

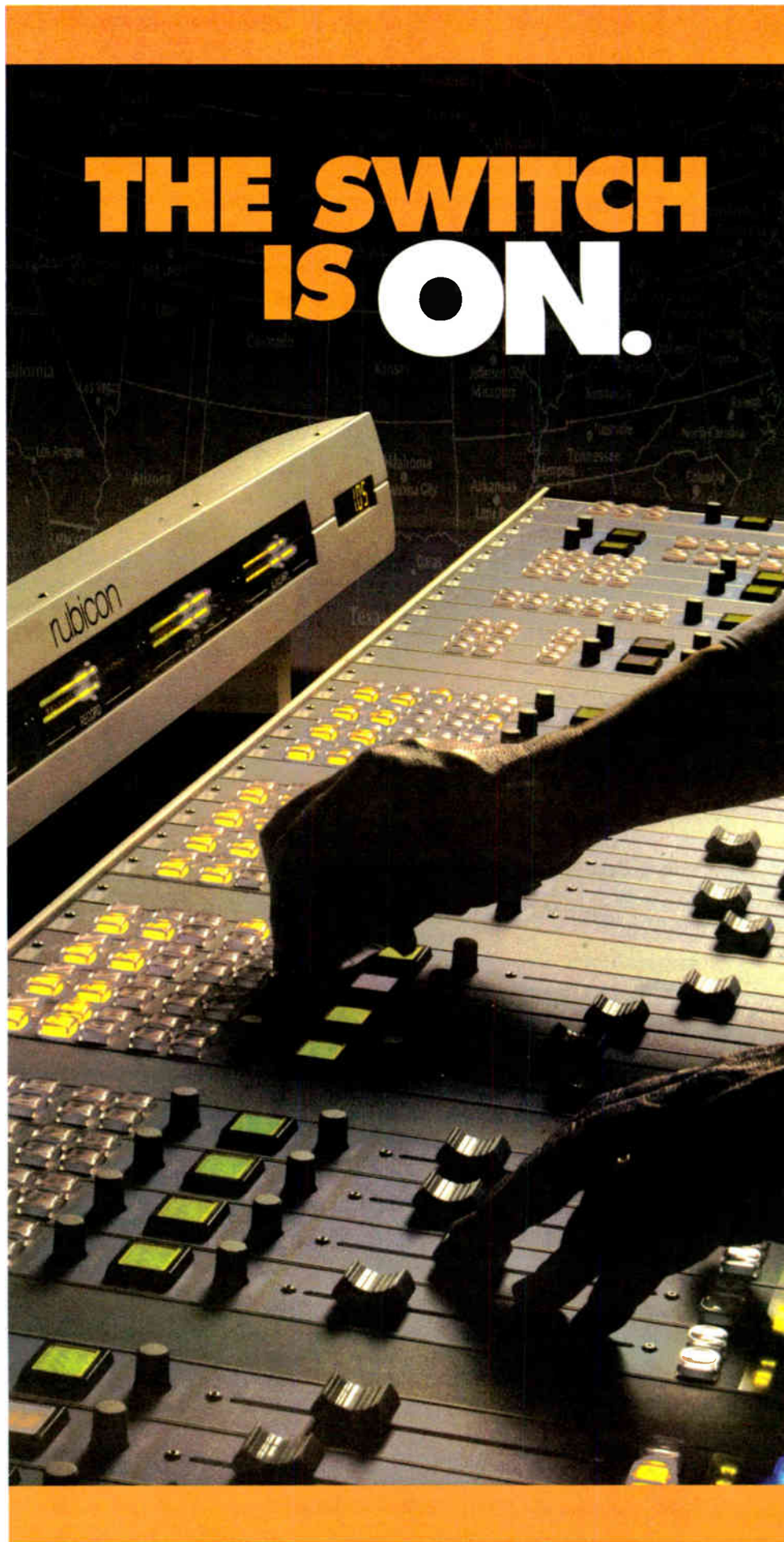
India, Iran, Kuwait and many European nations.

Among the more promising tests, Messer said, were those in Mexico and Brazil, where the little-used upper reaches of the shortwave spectrum were employed to test the use of DRM transmissions to carry multiple low-bandwidth spoken-word programs on a single 10 kHz channel.

"There is an opportunity for many, many new local stations" through the use of DRM in that spectrum, Messer said.

Even across the broad expanses of a country as large as Brazil, Messer said, the use of DRM on shortwave could

See DRM, page 30 ►



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The Value of Here and Now

Terrestrial Radio's Future Relies on the Leveraging of Its Unique Attributes

by Skip Pizzi

Like all traditional media, radio is being threatened by new competition. The market for audio services is rife with next-gen services, but radio has weathered such onslaughts on numerous occasions in its long history.

Yet counting on this possibility is not a prudent course for broadcasters. Instead, radio should move proactively to ensure such an outcome by strengthening the areas that are most difficult for newcomers to challenge.

Talking to existing listeners — either via focus groups, or by more informal methods — is a great way to understand

voice-tracked in advance, for example — radio is delivered as it is heard. This has been considered an encumbrance, especially in an age that so values on-demand media, but it will actually remain an asset, at least for some (arguable, many) listeners, some (arguably, most) of the time.

Sure, it's great to program your own playlist on a personal music player; but if you ever want to feel connected to the rest of the planet by an audio source, radio is the way to do it. Even a broadcast-delivered jukebox music service with recorded liners as its only continuity has more of a sense of connection to other humans than does a local storage device. This is the basis of "Now value" — the sense that something created by others is happening at this very moment, and the listener is hearing it as it happens.

Add a DJ's voice, whether live or not, and you gain even more credible "nowness." Punctuating the service with news (even recorded announcements of upcoming events) adds more still. Any reference to time helps, and of course, actual live services, from morning zoos to news/talk to sportscasts, are the best of all in this respect. Every element of apparent real-time creation of the service increases its Now value, and gives listeners a stronger connection to the pulse of life outside themselves.

Any radio service — which in the United States today includes those delivered both terrestrially and by satellite — can provide this value. Even the most hardened iPod user cannot fully abstain from such services, and will on occasion still turn to them when a connection to the outside world in real time is desired.

these strengths. While the finer points of this analysis may differ among stations, certain broad strokes are likely to apply to the entirety of terrestrial radio. Applying these lessons well may mean the difference between continued success and eventual serious decline or failure in the years ahead.

Now hear this

One of these general traits is what I call "Now value." It is the key differentiator between radio and most other audio sources available today, in that radio is listened to with special consideration of the current time. Even it is produced otherwise — recorded or

than 20 (dB) you're OK, less and you're in trouble."

Receivers

Messer's observations were echoed by session attendee John Rodenbarger of Purdue University in Indiana. He uses a software-based decoder to listen to DRM tests on shortwave from several transmitters.

Rodenbarger said his reception of

much like monophonic FM in a 150 kHz channel," he said.

While several shortwave broadcasters have begun offering DRM transmissions on a regular basis, receiver availability remains an issue for DRM as it does for all digital radio systems.

Messer said several manufacturers plan to introduce low-cost DRM receivers at a major European consumer electronics show this fall, including portable models

that will receive standard AM and FM as well as DRM and the Eureka-147 digital system in use in Canada and Europe, all for a target price of about 100 Euros.

And he said tests of the DRM system will continue.

"You can expect an increase of 20 to 40 percent or more in the next year or so, independent of whether people buy receivers," Messer said. 🌐

DRM signals from the Radio Nederland transmitter on Bonaire in the Caribbean is good to about 21-22 dB of signal-to-noise ratio, considerably better than in analog mode.

"When these (DRM) signals mute, the AM stinks," Rodenbarger said.

Messer said audio quality on the DRM transmissions was noticeably better than on AM as well. "The quality is very

The Big Picture



Photo: Gary Hayes, BBC

by Skip Pizzi

Every sound heard by a listener happens while that listener is located somewhere, at some time. The connectedness provided by Now value can be even further strengthened in some cases by adding locally specific references or information, or "Here value."

This is something that terrestrial radio can do well practically all the time, and which has definite appeal to listeners. Politically, this is called "localism," but that term generally refers to coverage of local issues. This is only a single component of Here value. Simple references to area venues — even in commercial messages — can provide as much Here value to a terrestrial radio service as a local news story does.

Satellite radio has recognized this, as evidenced by recent trends toward adding major-market traffic and weather. These increase both Here and Now value for these services, but terrestrial radio can do this for a wider range of content, in every market it serves. (Terrestrial radio should consider the added value of such *full-time* weather and traffic services, however, which could be implemented as low-bit rate supplemental audio services via IBOC.)

Connecting listeners to their world, on both macro and micro levels, is an attribute of terrestrial radio that is difficult to contest. Terrestrial broadcasters should bear this in mind as they shore up their defenses against mounting competition. Listeners may wander, but they can always come home to radio if it retains its unique appeal.

Skip Pizzi is contributing editor of *Radio World*. 🌐

Every sound heard by a listener happens while that listener is located somewhere, at some time.

What makes this time different is the sheer number of potential competitors simultaneously — and we haven't seen the last of them yet. Complicating this further is the timing, happening just as radio deploys its own next-gen improvements.

Outflanked?

There may be a sort of safety in numbers here. The very fact that so many separate start-ups are challenging radio for its listeners' ear-time may be a blessing in disguise. This is the so-called "solution by dilution," by which no new entrant can gain critical mass, and they all eventually go away, leaving radio essentially as it was in terms of market share.

DRM

► Continued from page 29

allow a broadcaster to blanket the nation with as few as three or four transmitters.

On the medium-wave spectrum, Messer said tests have ranged from huge 700 kW transmitters in the Mediterranean to a "single-frequency network" in Berlin that covered the city with just three 100-watt transmitters synchronized on one channel.

"That's 300 watts to cover 5 million people," Messer said.

Helping to make that possible is DRM's performance at very low signal levels and in high-noise conditions. Messer presented the results of a study conducted from analog and DRM transmissions on a government transmitter in Skopje, Macedonia, in which analog AM transmissions at 1200 kW were compared with 700 kW DRM transmissions in one of the less robust modes offered by the DRM standards.

Using a test van that traveled across Macedonia and neighboring Greece and Italy, researchers found that the AM transmissions were listenable only when the signal-to-noise ratio exceeded 30 dB and the received field strength of the transmissions exceeded 60 dBuV/m.

By contrast, Messer said, DRM reception remained reliable down to 20 dB S/N and 45 dBu of signal.

"The dominant variable was signal-to-noise ratio," Messer said. "If it's better

On the medium-wave spectrum, Messer said tests have ranged from 700 kW transmitters in the Mediterranean to a single-frequency network in Berlin that covered the city with three 100-watt transmitters synched on one channel.

A New Outlet Channel at Little Cost

Broadcasters Appear Cautious About Podcasting; Here Are Tales From Three Early Adopters

by James Careless

Despite all the buzz that podcasting has generated, only a handful of U.S. radio broadcasters are offering downloadable podcasts on their Web sites.

So who are these brave few broadcasters? Here's a few snapshots of them.

Unlike most U.S. broadcasters, Seattle's KOMO 1000 was quick to start podcasting.

"We began our podcasts a week after

consumer tips, "Boeing News," "Microsoft News," KOMO sports and Mariners news.

"We're a news station, so we don't do long-form programming," Orchard said. This makes it easy for KOMO 1000 to select podcast items, both because of their length and lack of royalty-due music.

As for listener response? Orchard

been posting these on our Web site for years now, for access using a RealPlayer: Now we are offering these same feeds as podcast downloads.

"The other is a specific newscast, which I write and produce for late afternoon download. It's a wrap of the day's main headlines, plus some weather, sports, and an entertainment feature from our sister station Z104."

How is podcasting performing for WTOP?

"It's still a very young technology, and a very small part of our station's online

First 4 local news for seattle, tacoma, and the pacific northwest

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[Back](#) Welcome to the WTOP-Z104 Radio podcast update. Each week we bring you...

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WEATHER

Washington, DC Cloudy 55° F

Warrenton, VA Drizzle 57° F

WTOP podcast subscribers can have updates delivered to them automatically every afternoon.

"In fact, those who are offering podcasts are far outnumbered by those who are hesitating, or too busy trying to avoid dead air within their tight budgets to do anything," said Holland Cooke, a news/talk specialist with McVay Media.

"The crying shame is that podcasting is free to radio broadcasters: You're already producing the audio content, and if you have a Web site, the cost of hosting RSS (Really Simple Syndication) podcasts feeds is already covered."

Adam Curry released 'iPodder,' a free program that downloads audio files to MP3 players, said Stan Orchard, assistant director of news and programming for the Fisher Communications station. "We already had an RSS feed available on our Web site, and we were producing lots of audio content for it, so I edited the feed slightly to match Curry's specs and put it up."

Today, RSS/podcast fans can access a range of KOMO features including local news, Ken Schram's commentary, "Buyer Beware," "HealthWatch," Herb Weisbaum's

won't quote numbers; but he said in May that the Podcast section was the fifth most popular part of the Web site.

DC pioneer

At WTOP(AM) in Washington, "We are offering two different kinds of content on our podcasts," said Steve Dolge, director of Internet operations for Bonneville International, which owns four DC radio stations.

"One is based on the two- to three-minute live interviews that we do as part of our 24 hour on-air news cycle. We've

presence," Dolge said. "As well, some of our listeners can't download podcasts at their offices, due to firewalls.

"Still, given how much demand we've had for streamed audio since we launched it in 1997, I have to believe that podcasting will eventually become a major part of what we do."

Toronto

In a bid to capitalize on its popular "Roger, Rick & Marilyn" morning show, Toronto's CHUM(FM) has started pack-

See PODCAST, page 32 ▶

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PubRadio: Making Every Dollar Count

by Dan Odenwald

Facing new programming and digital conversion costs in 2005, public radio stations are exploring new ways to raise crucial funds while refocusing their



Caryn Mathes

efforts on the basics.

As managers become increasingly adept at asking for larger gifts from major donors, for example, they're also seeking greater efficiency from more traditional fundraising methods such as on-air pledge and direct mail.

It's part of a revamped landscape in which public stations are finding them-

selves more dependent on listener-sensitive income as the costs of doing business are rising.

Think big

"One reason it's not all that easy to be a station manager is having to manage five or more disparate revenue streams — individual giving, major donors, foundation grants, licensee or government subsidies, and underwriting sales," public radio consultant John Sutton writes on his weblog.

diversify their fundraising activities to include e-fundraising, major gifts and planned giving programs, he says.

With the exaggerated emphasis on pledge, stations lean too heavily on gifts at the lower end of the giving pyramid, he believes. They need to start increasing the number of gifts at the \$1,000 level or higher.

A growing number of stations are getting into the major giving arena, said Dana Davis Rehm, vice president for member and program services at



Ford Ballard

WAMU(FM) in Washington. Though those dollars are difficult to acquire, they're worth pursuing, she said.

Yet even as stations diversify their development activities, much attention still needs to be paid to the fundamentals, many public radio managers contend. For example, stations could do a better job at converting listeners into members and then renewing those donors, Mathes said.

On-air pledge practices also deserve review, she added, particularly the dependence on premiums used to bait new members. Tasty premiums entice people to give, but create a trap of having to offer ever better giveaways to lure those dollars. As premiums become more expensive, stations are netting less revenue.

Raising a dollar is proving more difficult. See FUNDRAISING, page 33 ▶

You have to ask for what you need. Stations that haven't done well financially haven't made that connection with their community or stated their needs.

— Steve Ramsey, KBCS(FM)

"There aren't too many businesses that require managers to be good at so many different ways of generating income."

Public stations are still too reliant on the two main fundraising warhorses: on-air pledge and underwriting, argues Greg Salustro, vice president of development at Chicago Public Radio. Stations need to

National Public Radio. Stations are just beginning to unearth community leaders willing to give at those higher levels, who can inspire their friends to do the same.

Grants from foundations are another relatively untapped revenue stream, said Caryn Mathes, general manager of

Podcast

▶ Continued from page 31

aging it as a podcast. A new edition is made available every morning at 5 a.m., so that commuters can download the show and go.

How does CHUM post a morning show podcast before it has gone to air?

"What we actually do is produce an

mute to work by subway, a place where FM signals can't get through."

In future, CHUM plans to podcast its vast archives of rock star interviews.

"We have stuff going back to the late 1960s, including interviews with Jimi Hendrix, Janis Joplin and Elton John," Farina said. "Our people have been doing a great job of salvaging this material from old tapes and transferring them into sound files, where they will be accessed through our server."



CHUM(FM) listeners can download highlights of the 'Roger, Rick and Marilyn' morning show to their MP3 players.

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up-to-date package of news, weather and sports, and bundle it with highlights from the previous day's morning show," said PD Rob Farina.

"People can set their Web browsers to download the podcast when it becomes available, then listen to it while they com-

"For years, I've been telling talent, 'Your day job is a means, not the end,'" said consultant Cooke. "And I've been telling stations, 'Your transmitter is merely one way to distribute your content.' Now, thanks to the advent of podcasting, we know where else to be." 📻

Fundraising

► Continued from page 32

difficult today as new technologies like podcasting and satellite radio steal listeners from traditional broadcasts, said consultant Sheila Rue. In an increasingly on-demand world, listeners can tune out pledge drives, which many find annoying.

While larger, wealthier public stations are expanding their fundraising activities despite such threats, smaller, poorer stations face their own unique challenges.

Lack of staff is the chief impediment at KRWG(FM) in Las Cruces, N.M., according to Development Director John Ballard. For many years, he alone was the fundraising department — responsible for bringing in more than \$200,000 a year in his economically depressed community. Now there are two people on staff, he reports.

The capacity of any single fundraiser in his market is about \$150,000 a year, Ballard estimates. "After that, you just don't have enough hours in the day."

"In more rural and depressed areas, it's just that much harder to find the money," he said. "You have to be more resourceful for longer."

Other small stations, still in their fundraising infancy, are just learning the basics.

"Our challenge is in doing it for the first time and to make it effective" said Tom Crawford, GM of WMSE(FM) in Milwaukee. Public stations in his market have been doing pledge drives for decades; his station is just gearing up.

A latecomer to the game, WMSE is learning to talk to its listeners in new ways to inspire contributions without annoying them. Given the station's alternative music format, it's a tricky task because listeners aren't accustomed to the more traditional appeals for support heard on other pubradio outlets.

New costs

Regardless of size, nearly every station faces rising programming costs and the bill for digital conversion, according to Ken Mills, a programming consultant.

Nearly all news/talk stations will pay more for programming now that Public Radio International and Minnesota Public Radio have parted ways. Programs from PRI and American Public Media, the Minnesota spin-off, now come with their own costs rather than one neatly bundled fee, in addition to fees already paid to NPR for programming.

The bump is forcing many stations to make painful decisions about eliminating certain programs, Mills said. With stations facing a 20 to 30 percent boost, there are "real bottom-line cash flow issues."

The Corporation for Public Broadcasting is helping defray the costs of digital conversion for many stations, but training costs on the new equipment will add to station expenses, Mills said. Because some stations will launch multiple programming streams, they must also absorb the costs of additional programming.

As potent a problem as rising costs are rising expenses at many stations, warns consultant John Sutton. "Stations build their budgets on what they want to spend, not what they can raise."

New spending on local programming, Web sites, administration and overhead is wiping out the gains made in fundraising. To cover the shortfall, Sutton said, stations are scrambling halfway through the

fiscal year to add pledge days or drop more direct mail. Sutton encourages stations to set realistic three-to-five-year financial plans and stick to them.

Even as stations develop new ways to solicit money, the "ask" is still the most important part of the process, says Steve Ramsey, GM of KBCS(FM) in Bellevue, Wash. "You have to ask for what you need," he said. "Stations that haven't done well financially haven't made that connection with their community or stated their needs."

Ultimately, if public stations provide listeners with a valuable service and ask them to pay for it, they usually do.

"The challenge is to articulate what we need and ask our listeners for it."

The author is a freelance writer based in Washington. Reach him via e-mail at dodenwald@aol.com.

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Occupation: Chief Engineer, WBUR Group; Technical Editor, Radio World Engineering Extra


Certification: SBE Certified CPBE

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Favorite technical toy: Spectrum analyzer; power inverter for the car.



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Promo Power



by Mark Lapidus

What Makes a Great Promotion Director?

The owner had his feet up propped up on his desk as we discussed a candidate for promotion director at one of his radio stations.

"Is it your belief that a person has to be creative to be a great promotion director?" he asked me. "I really liked the redhead the best out of the three we interviewed; but I didn't get the sense she could think really fast on her feet."

I answered his question and we made our plans. But I was surprised he didn't pose the larger question: "What are the qualities to look for when searching for a promotion director?" Maybe he already knew.

The answer to the first question is "no."

A promotion director doesn't have to be unusually creative to be successful. He or she can compensate by building a library of creative, successful promotions and keeping this library close-by for easy access.

Build your library

Building this "promotion library" does take time; it doesn't happen all at once. The idea is collect promotion names and details and put them into a folder.

For example, several times a year, I write an article in Radio World that con-

tains various promotions for an entire season. So take a pair of scissors, cut out each idea you see here — like "Father's Day 500" or "Fat Boy 500" or "Diaper Derby" — and put it in its own folder for easy reference. Sort the list by time of year.

Look for promotion ideas in trade magazines and radio station Web sites. When you see something you like, save it and file it in your promotion library.

When you need ideas for annual planning, sales promotions or a spur-of-the-moment promotion, you'll have a lot to choose from.

Add to this collection often. Look for ideas across formats. If your library doesn't get a shot of new life every month, you'll soon stop using it.

Organization

Now, what qualities should you look for when hiring a promotion director?

Part of the answer depends on market size and the actual job description. Some promotion directors are strictly event managers. Others also function as marketing director and need to know how to place outside media. That's a wide range.

When you interview a candidate, make sure she's actually listening. If she's not tracking during an interview situation, you're getting a large clue.

One quality both of these positions require is organization. Your candidate must have worked in a position that tested his or her organizational skills. If the candidate hasn't already managed various priorities in a previous position, he or she likely won't be able to handle the multi-level chess played every day by a promotion director. Have the candidate tell you what systems they've used to stay organized with events, contesting, meetings and task execution.

Great people skills are a definite must. A promotion director has to be able to finesse things internally between a program director and sales manager. They have to be able to train an assistant and/or part-time promotion workers.

If your new guy can't relate to other people easily, he won't even understand why he's failing when things go wrong (which they always do).

Listening is a skill the candidate must have mastered. It's easy to talk but not so easy to take in information. When you interview a candidate, make sure she's actually listening. If she's not tracking during an interview situation, you're getting a large clue.

How open is your candidate to new

See HIRING, page 37 ▶

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Designed for demanding field applications, the PMD660 can operate for up to four hours on four AA batteries. The two built-in stereo condenser mics, two XLR microphone connections with 48 V phantom power and stereo line I/O complete the comprehensive set of audio features.

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By virtue of its solid-state design, the PMD660 has no moving parts, and is, therefore, dramatically more reliable than cassette, DAT or other tape or disc formats. This carries the added advantage of eliminating periodic maintenance and all of its related costs.

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In addition to its outstanding performance and field functionality, the PMD660 offers editing capabilities unmatched by any competing field recorder. Included in the firmware are two editing modes. "Copy Segment" editing uses nondestructive cut-and-paste-style editing to create a new sound file, which can be up/downloaded via the built-in USB port. With Marantz's exclusive "Virtual Track" editing mode, you can create an internal edit list enabling nonlinear playback of file segments, without using card memory to create a new file. Ninety-nine virtual tracks can be created to compare edits, set up multiple soundbites or to provide interview segments of differing durations.

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



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'Eight Major Myths About Radio'

This spring the Radio Advertising Bureau issued a summary for journalists, intended to dispel what it called major myths about radio. This is the RAB's text.

1. Clutter

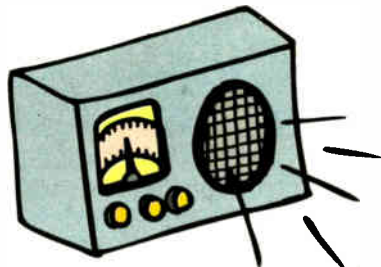
a. A Harris Nesbitt Study from February, 2005 found that spot loads on radio had been reduced by 13 percent in the top 10 markets since October, 2004

b. Overwhelmingly, consumers perceive TV to have more commercials than radio, according to an Arbitron/ Edison Media Spot Load Study released in May of 2005

c. Radio is the medium at the forefront of advertising clutter with initiatives such as Less Is More from Clear Channel and various spot load restriction policies from other radio groups

d. Listeners prefer more frequent and shorter breaks, with 57 percent voting for three breaks of four spots over two breaks of six spots in the Arbitron/Edison Media Spot Load Study

e. Less Is More is noticed by listeners. Two studies from early in 2005, the



Burke and the Navigauge Studies, revealed that Clear Channel listeners noticed fewer commercials, shorter commercial breaks and more music.

f. The Navigauge Study from January 2005 corroborated this finding. While conducted in only one market, the study supports the larger studies, confirming

that with shorter commercial breaks (i.e., those having four or fewer ads), roughly 80 percent of the qualified audience was still listening after the second commercial, and roughly 70 percent was still listening after the third spot.

2. Not Innovative/Not Cool/ Fearful/Slow To Change

a. *HD Radio* (see RAB White Paper for details)

– Multicasting: May 2005, Infinity announces WUSN(FM) will broadcast separate programming on second channel using HD Radio technology

b. *New Formats*: Jack, Bob, Hurban, Progressive Talk, Doug, Chill, Sam,

Charlie

c. *Webcasting*

– Format Variation Streaming: Infinity's K-ROCK, N.Y. streaming a niche version of its broadcast format

– Clear Channel plans include webcasting videos of specially produced concerts on station sites

– Simulcast Streaming: more delivery options for listeners (computer at work)

d. *Visual Radio from Infinity*: listeners can tune in to local FM radio via their mobile phones while simultaneously receiving interactive information and graphics that are synchronized with the broadcast

e. *Podcasting*

– Infinity's KYOU, San Francisco: listeners submit their own podcasts

– Premier Radio Networks offers pod-

See MYTHS, page 39 ▶

Hiring

▶ Continued from page 34

ideas and new ways of approaching things? You're probably not going to find this out during an interview. You'll have to dig around a bit with previous employers to discover the truth. It's amazing how many people have convinced themselves they know the definite way to accomplish something and that their way is the only way.

If you discover this type of thinking, run. The best candidates have learned that there are lots of ways to approach a situation.

Can your candidate multi-task? Does he accept responsibility for his actions? If he hasn't worked in an environment where he's got five or more balls in the air at once, he'll be struggling as promotion director.

Someone who looks for complete closure on a project will not be happy as a promotion director for very long. The buck does often stop with a promotion director, so she must be able to take solid responsibility for herself and those she hires.

Is your candidate presentable? While this isn't nearly as important as other things we've covered, he does have to be able to represent you in front of clients, non-profits and local agencies.

What work history should they already have? Again, part of this depends on market size and salary. In general, a promotion director in a major market should have been an assistant promotion director for a number of years, or better a promotion director, even if in a smaller market.

One more hint for managers or GMs in major markets looking for more advanced marketing directors: Considering hiring a program director from a smaller market who loves marketing and promotion. It's usually the best part of their jobs in smaller markets.

Mark Lapidus is president of Lapidus Media. Write to him at marklapidus@yahoo.com. 🌐



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Myths

► Continued from page 37
casts of nationally syndicated shows to "subscribers"

3. Youth Market

a. According to a Kaiser Family Foundation Study released in 2005, 74 percent of 8- to 18-year-olds listen to the radio. That's more than listen to a CD, tape or MP3 player

b. The Kaiser Study also found that 84 percent of 8- to 18-year-olds have a radio in their bedroom — that's more than have a TV (68 percent) and a lot more than have a computer (31 percent)

c. Over one-third of 12- to 24-year-olds noticed stations playing fewer commercials (36 percent) and shorter breaks (39 percent) in the Arbitron/Edison Media Spot Load Study

The Kaiser Study found that 84 percent of 8- to 18-year-olds have a radio in their bedroom — that's more than have a TV and a lot more than have a computer.

d. The same Spot Load Study found that younger listeners (12 to 24) are more likely to increase Time Spent Listening to radio when a decrease in spot loads is perceived

4. Creative

a. Mercury Awards have encouraged and rewarded radio creative excellence and brought more awareness to agency creative departments

b. Mercury Creative Workshops have elevated level of radio creative

c. The 2005 Cannes Advertising Festival added radio as a category

d. Clear Channel's Creative Services Group has helped national and local clients develop successful creative

e. The Wirthlin Study revealed that advertising and programming are part of the same experience for listeners. Radio ads work best when they are compatible with their surroundings and are format- and lifestyle-specific.

5. Not A Branding Medium

- a. Motel 6
- b. Budweiser
- c. On Star
- d. Snapple
- e. Mt. Sinai
- f. AT&T

6. Declining Listenership

a. Reach 94 percent of the population; over 228 million unique listeners

b. Total number of listeners has consistently grown each year; over 25 million new listeners in the past 10 years.

c. Drop in TSL is comparable to other media, as consumers become multi-

media users. According to the Simultaneous Media Usage Study by BIG Research, 70 percent of consumers, at one time or another, use media simultaneously

hours with all media)

7. Commercial Length

a. The Burke Study revealed that a commercial's effectiveness is not depen-

than many 60-second commercials, suggesting that recall and impact relate to things other than commercial length

8. Schedule Integrity

a. Advances in EDI
– Over 25,000 invoices monthly are delivered electronically from the rep firms and the station traffic systems. That figure was only 1,000 in 2003 and should triple or quadruple at a rapid pace

b. AAAA/RAB: Radio Buying/Selling Guidelines Task Force

c. Fox Network-24/Clear Channel Case Study: unique, serialized campaign demanded accurate implementation of the schedule

d. Susquehanna Guarantee
– Two for one make goods for elite customers

– Promotional recaps within 10 days. 🌐

Two studies from early in 2005 ... revealed that Clear Channel listeners noticed fewer commercials, shorter commercial breaks and more music.

d. According to the Veronis Suhler 2004 Communications Industry Report, consumers are spending more hours per year with radio than other media (over 1,000 hours; over 28 percent of total

dependent on length. Creative, well-executed, relevant spots generate strong recall.

b. In that same study, a significant number of 30- and 15- second commercials had recall scores equal to or greater

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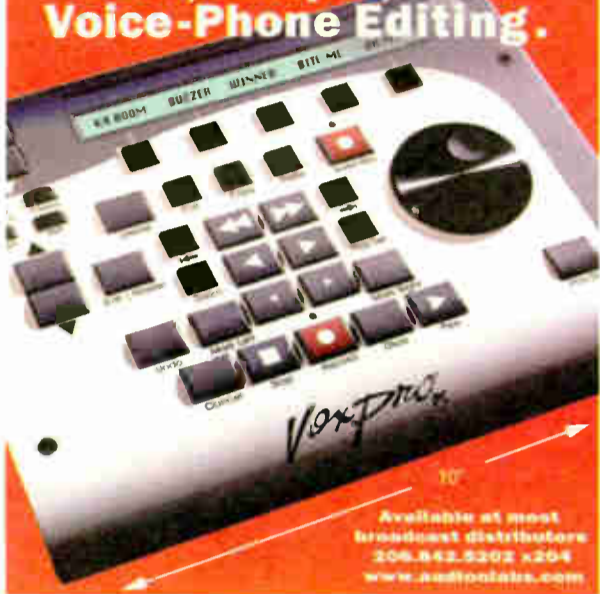
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A Sense of Radio Changing

Spring Show Attendees Seem Upbeat About Recent Innovations in the Medium

by Jackie Broo

Radio industry people are radio listeners, as well. And most seem supportive of initiatives happening in radio to improve its product, on both the programming and technology sides.

Radio World queried attendees at the spring NAB show for their feelings as radio consumers. To a person, everyone was encouraged by the changes.

Of Clear Channel's "Less Is More" spot reduction program, Michael Troje, regional sales manager for transmitter supplier Continental Electronics Corp., said, "From my own viewpoint, I am glad to see it happen. One of the problems that I have had with consolidation is the fact that programming becomes consolidated, and you have fewer choices."

Troje thinks market forces are making larger companies react to the wider variety of needs of their customers.

It is a great sign that radio is willing to examine itself.

— Jeff Zigler, Prophet Systems

"As we look to the future of radio, we have to deliver more flexible content. And I think the radio groups are starting to take a serious look on how to do that."

Jeff Jury, COO of Ibiqity Digital, said, "I actually think the idea of trying to be more responsive to the audience is great; and it fits nicely with what we are trying to do with HD Radio."

With HD Radio, he said, broadcasters will be able to offer something better for their listeners. "That can only be interpreted in a positive way if it is a much richer experience for the listener."

Options

Wyoming Public Radio Engineer Jim Hereford said he thinks his organization has benefited from the lack of diversity among commercial broadcasters.

"Public radio is really alive in Wyoming. We get excellent listener support," he said.

"We do get Arbitron of our coverage and watch our market closely. We really are the largest media outlet in the state. We have a large news department and cover state news pretty effectively."

Attendee Mike Murrell from Knoxville, Tenn., said, "This is a chance to go back and look and say, 'What are we really doing here? Are we serving our listener? Or are we just putting out what we want?'"

As more channels hit the airwaves with supplemental audio, he said, listeners are going to find the new channels that they want.

Jackie Lockhart, vice president of marketing for manufacturer Prophet Systems, said, "I do think that some of them (changes) are very important. I

don't like the huge long spot blocks. I like to listen to the music."

Her colleague Jeff Zigler, vice president of sales/engineering, added, "It is a great sign that radio is willing to examine itself." Zigler also cited podcasting as possibly an alternative form of delivery for broadcasters. "It's another option, rather than putting everything on the transmitter. Good content is content."

Alternative delivery

Troje offered similar thoughts.

"I have heard some comments from

medium-size group owners. They are saying maybe there is way that they can support podcasting. Maybe they can integrate into other venues and delivery systems."

When it comes to the new capabilities offered by digital radio, interviewees agreed that the possibilities are wide open.


"One of the big powers of local AM/FM radio is that you have all this innovation on the local level," Jury said. "Everyone is thinking about how they can take advantage of these new features and really create extra content."

Troje said of multicasting, "This one of those 'chicken and egg' things. We want to see it work and we want to see

people accept it. National Public Radio is really making some inroads."

Jury said, "We see a lot of interest in multichannel. People come by and play with the radios. KTSJ has been demonstrating how you can go to a multichannel format. I see a lot of wheels turning in people's heads."

When it comes to new audio opportunities such as 5.1 on FM, he added, "This will be another way to capture the hearts and minds of the audience by offering them a surround sound experience."

Tom McGinley, director of engineering for Infinity Seattle and an adviser to Radio World, seemed to capture the sense of attendees on the topic of digital radio when he said, "Contrary to what was reported in Wired magazine, radio is not dead yet. This thing is really going to happen." 

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◆ READER'S FORUM ◆

GUEST COMMENTARY

Don't Kick AM Radio When It's Down

The 5 kHz Bandwidth Reduction Trashes A Struggling Service — and Listeners Do Notice

by Marvin Walther

While I understand the premise of the decision to reduce AM bandwidth to 5 kHz — and all too well — I still have a problem with the mathematics and psychology of it all.

I've been in this business for over 20 years and engineered for a good many years of that. Never since the discussion of NRSC have I seen such venom spat by the different factions on the subject of bandwidth restriction.

First off, what happened to the expanded AM band? There was a theory kicked around that the AM broadcast band could be "thinned" out to reduce congestion. That never really materialized; the radios are readily available to the listener, but hardly anything is there to listen to.

Second, when I was taught AM transmission theory at Valparaiso Technical Institute in Valparaiso, Ind., I learned that the modulation bandwidth was 10 kHz above and below the carrier frequency, with a 10 kHz protection on either side. That makes a station's occupation at one spot on the dial 40 kHz wide!

Now, I don't know who put wax in the ears of the proponents of 5 kHz bandwidth, and who talked them into the idea that the listener won't notice a difference; but I do notice a huge difference in the freshness of the highs on my AM stations when the highs are severely rolled back.

Does this mean we scrap NRSC, which complicated sideband splatter and harmonic problems and never should have been implemented?

Too much 'woof'

Ask me, and I would say roll back AM audio to flat EQ and 10 kHz bandwidth again, spread the stations out as originally intended and make receivers good enough to give appreciable audio quality. The problem would be solved for analog AM radio.

But I would also have to agree that it's time to move on, technologically speaking. I just think that it should be done like TV: Move AM service to a new piece of spectrum for digital, and quietly legislate the forcible removal of analog service from the existing AM band or give it up to something else.

But please don't trash a service that's already suffering at the hands of cheap radios with bad circuits. I definitely don't want to be listening to AM audio that sounds like mud and makes the speakers in my car rattle because of too much "woof."

Besides, if listeners don't notice the audio quality at 5 kHz, why do they notice the difference in FM audio? Why do they notice that CDs sound better than FM? Could it be that high frequencies in

the audio create interference patterns in the lower frequencies, making the audio more "hi-fi"?

I think Doctor Bose would at least agree that even frequencies we can't hear have an impact on those we do. Why else build microphones that have supersonic capture ability? Why do we have digital recording with super-high sampling rates? Because highs in the audio *do matter*. I need highs in my AM audio to understand what's being played by the station in order to overcome the road noise of my car. If it's too muddy, it sounds like the road noise.

By the way, if you want to reduce sideband interference, why not go Single Sideband? The receivers can be easily modified with a beat oscillator adapted from the heterodyne circuit — a piece of cake for most transistor and IC-based radios today. But I digress in sarcasm here.

Full-throated AM

Not every market is beset with sideband interference issues. In fact, I would venture a good guess that those stations are in the minority, although it doesn't seem like it to the big-city guys who seem to set policy for the rest of us out here because *they're* the ones having problems because of too many licensees in a given market.

Based upon the logic of several proponents I've heard, maybe those stations experiencing the interference should roll back their highs. But most of the rural stations, especially Class As, are still doing fine with NRSC at 10 kHz (upper and lower sidebands). And our listeners do notice. I've heard it straight from their mouths.

I am proud of a full-throated sound of my AM stations and intend to keep it that way as long as possible. And if technology supplants analog service, I welcome the day. But until everybody can make up their cotton-picking mind how it's going to be done, please don't trash a service that's already struggling with its identity.

I know some of you out there don't see it this way, and that's the wonderful thing about America and Radio World's Reader's Forum; at least we can agree to disagree. But I, at least, have a legacy of old engineering practices dating back for more than 80 years to help me decide what's the right thing. And 5 kHz audio equates to going back to the days when we used carbon microphones and mechanical oscillators.


At least the audio will truly sound "retro."

The author is chief engineer for WIOS(AM) 1480 in Tawas City, Mich.

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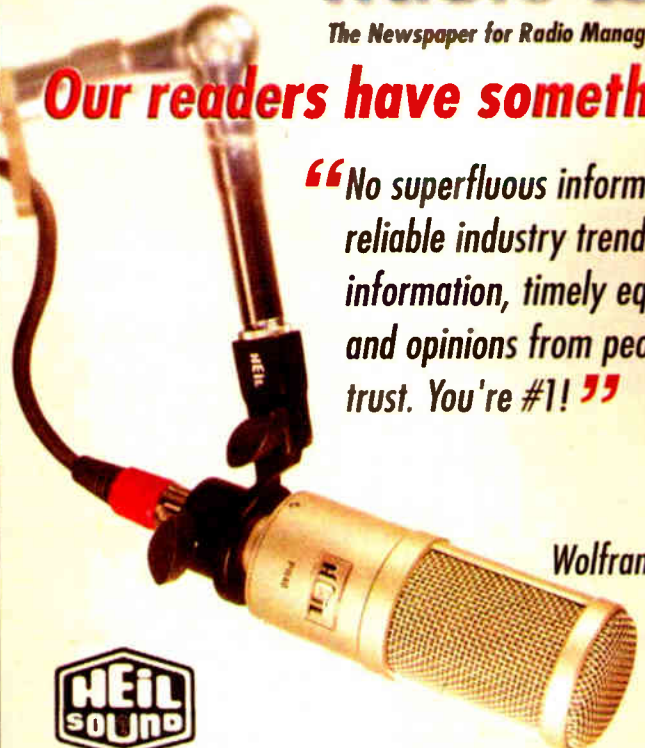



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◆ READER'S FORUM ◆

Lights Out in Smallville

Why has the FCC allowed Ibiquty to rape the small-market stations with exorbitant license fees, not to mention huge capital investment with little or no return?

What happens when the commission mandates IBOC implementation by a particular date?

Soon the flashing red lights standing sentinel on the outskirts of Smallville, USA will be extinguished. But not to worry; in addition to the large-market signals from 50 miles away, you'll have XM and Sirius, which will no doubt soon offer free service supported by — surprise! — commercials.

Tom Andrews
President

Lake Cities Broadcasting Corp.
Angola, Ind.

AM Is Hardly Dead

I must ring in on "TV 'Must Carry' Offers Lesson for Radio" (April 27). The author can't be serious when he claims that radio reception for HD could be "dumbed down." Could he be any more vague?

Fact is, AM radio has never been more realized for its superior quality — from state-of-the-art audio source, STL equipment, and finally, the best transmitters available in the analog market. It pushes the bandwidth to the maximum envelope with the best technology ever. I appreciate this every time I power up my GE Super Radio.

I wish the author would say, "This is my opinion," as it certainly is not fact. I cut my teeth, almost literally, on the air on AM radio when I was but a child. I knew that the changing market would affect all audio bands, but AM is hardly dead — quite the contrary. It enjoys coverage and popularity it has not known in decades due to news/talk, sports and valuable information you can't get on satellite audio. It enjoys one of the largest audiences it has known in its existence. Read the Arbs.

Many of us have not had the FM band on our rigs for years. Why? No intelligent life here. Remember the song Queen song "Radio Ga Ga" in the '80s? But I digress.

Digital audio quality, either terrestrial or satellite, may not be as important to the consumer as analog signals once were, only because of the technology inherent to digital. Oh, to think of the many times I

watched modulation monitors in Las Vegas at the National Association of Broadcasters conventions, their needles constantly riding in the "illegal" zones while monitoring audio from the local FM stations.

The audio was breaking up and as irritating as fingernails on the chalkboard

Since when do consumers not want the best quality receivers? I constantly read and hear about consumers that demand the best from their equipment. Take a look at the sea of reports, consumer information and technical journals. From what I've seen and heard, it's quite the opposite of the author's claim.

It is the consumer who should and does dictate what they want rather than those who would presume to speak for them. It is morally wrong to tell the consumer and market what they want and should air. That's what the free market is for — be it analog, digital, satellite, terrestrial or otherwise. If anything is lacking, it is programming and mega-conglomerates — are you listening, Clear Channel and Infinity? — and too much emphasis on trash rather than quality programming.

I take no exception to developing good over-the-air signals and state-of-the-art receivers, but I do suggest checking the facts, which speak for themselves. AM is still hot and thriving and will be for a long time to come. This year's NAB proves this all the more.

It should be the consumer who has the choice to view and listen to what they want rather than some powerful ad entity dictating thus.

John Curtis
Baywood Park, Calif.

In the article, "TV 'Must Carry' Offers Lesson For Radio," the author seems to have missed the most important factor and assumed technology is the big problem. He overlooked how the "bean counters" who dominate the major TV empires have sacrificed the future of the entire industry for short-term revenue. They tried to target the same audience and went for highest ratings. So broadcast TV became the same.

From the viewer's perspective, broadcast TV became boring. But along came cable, which offered a cornucopia of program options — not more broadcast stations, but alternative programming that appealed to individual interests. Such channels are not pushing for the highest rating; they're content to focus on doing what they do with high quality.

TV is no longer "one size fits all." Viewers now have more choices than Bad TV vs. No TV.

No Need to Wait for IBOC to Examine AM Improvement

AM stations making the IBOC transition must scrutinize their antenna systems and transmitters to determine if they are capable of accommodating the technical criteria the IBOC signal demands. In many cases modifications to the coupling system must be implemented, especially in directional antenna arrays.

Many will recall this scenario when AM stereo was introduced. The first published presentations addressing AM antenna bandwidth date to July, 1949. Whether your station is directional or non-directional, AM stereo or IBOC, the antenna system is an important factor in coverage and audio fidelity.

There is no need to wait for IBOC to determine if you can improve your coverage.

The first step in AM improvement is to examine your coverage area. Is your signal reaching the intended audience? Is it adequately serving rated market areas?

Perhaps your directional transmitter site was chosen long ago, when nulls fell over pasture or unpopulated regions, or a non-directional tower was placed on the outskirts of town. Today there may be condos or shopping malls in the nulls; or perhaps the population has shifted away from your tower site.

Is it possible to relocate your transmitter site to realize a signal improvement or profit from valuable real estate? Is there another station you could purchase and turn dark, allowing you to increase power or improve coverage? Have you considered diplexing with another station?

All of these are possibilities to explore. An experienced consulting engineer can examine your allocation and determine if such improvements are possible.

Some directional antenna systems have been improved greatly by dropping one or more towers and meeting FCC limits with fewer sticks. Other antenna systems may require considerable reworking to meet IBOC requirements or coverage improvements. Directional antenna systems must be analyzed for pattern and impedance bandwidth. Any improvements made to your transmission system will result in better coverage, increased listenership and revenue. In some cases, it may be possible to reduce tower height and extinguish tower lighting requirements.

There is no reason to wait for IBOC to begin your examination. Your business may profit greatly from it.

— RW

As the major players in the radio industry struggle for higher ratings by targeting formats with the highest audience appeal, radio programming also is becoming boring. Satellite radio, LPFM and Internet "radio" are ready to offer another cornucopia to the masses of bored radio listeners, who are ready to spend money in order to hear something worth listening to.

We frequently hear from listeners in our fringe areas who struggle to pick up our signal. Yet they prefer "us" over "them," even though "they" have a stronger signal. It proves listeners will put up with noise, static, fading, interference and even buying new radios, if they find something worth listening to. Radio needs better programming more than it needs better technology.

John Stortz
Chief Engineer
Moody Radio
St. Petersburg, Fla.

Lasting Imprint

My thanks and regards for the wonderful treatment given to Midcontinent Radio Chairman Larry Bentson ("Out of Radio

After 52 Years," Feb. 2).

His imprint here will last long after his official departure. Mr. Bentson has been successful in the media/entertainment business, first with movie theatres, then radio and television stations. Your astute reporter aptly captured Larry's considerable passion for radio in his article. Thank you for that tribute.

Larry refers to his properties here as "my beloved radio stations," and he struggled mightily with the decision to separate from them. He has been an outstanding contributor to the radio business, and generous to the many talented people in it. Larry receives the heartfelt best wishes of all those who know him.

I feel fortunate to have managed Midcontinent Radio properties for him since 1996. During that period I learned the numerous people who do know Larry Bentson say two things about him. They either like him or they love him — mostly the latter.

Mike Costanzo
VP, General Manager
Midcontinent Radio
Sioux Falls, S.D.

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