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711

IAAIS Gets the Word Out

Audio information services are working to find their niche in the digital, online world.

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Sturdy Survivor

The news format remains a vital force in radio.

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# Radio World

The Newspaper for Radio Managers and Engineers

September 1, 2001

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### GM JOURNAL



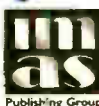
▼ We talk to Hilary Rosen of RIAA and Roy Williams, 'The Wizard of Ads.'

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### FLASH IN THE HAND

▼ Nagra and Radio World give away a reporter's dream machine.

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### NEWS MAKER

## Jefferson Engineers NPR Logistics

by Randy J. Stine

**WASHINGTON** Camille Jefferson envisions a day when broadcast engineers have creative input as well as studio maintenance responsibilities.

"I think with the development of broadcast technologies in the world of digital broadcasting, fiber optics and 100-channel satellite broadcasters, everyone is going to have to step up and do more creatively, and that includes engineers," Jefferson said.

Jefferson, manager, audio engineering, broadcast services for National Public Radio, is excited about broadcast advances in Webcasting, in-band, on-channel digital audio broadcasting and satellite radio, along with the challenges they present to broadcast engineers.

"I believe IBOC DAB will be very well received in that it won't interfere with existing analog signals. The biggest beneficiary could be AM stations. They'll have FM-quality sound and could become competitive playing music again. And FM sound will be bumped up a

See JEFFERSON, page 6 ▶

### NEWS ANALYSIS

## Sirius, XM Crank Up Pitch to Consumers

by Leslie Stimson

Soon, theater audiences will see XM Satellite Radio advertising spots depicting music as various objects falling from the sky. Specialty magazine readers such as car audio enthusiasts already are seeing ads for Sirius Satellite Radio.

The companies developing satellite-delivered digital audio broadcasting are preparing to launch their subscription services this fall to take advantage of holiday consumer electronics sales.

### Higher profile

With that in mind, XM and Sirius have begun extensive ad campaigns to reach potential radio buyers. They are training retail employees, planning listening kiosks and taking other steps to increase the profile of their service launches.

Wall Street analysts, media buyers and terrestrial broadcasters are watching with interest to see how the two companies will tell consumers the story of satellite

radio, and differentiate their products from one another.

XM's \$100 million campaign has been in development for about a year by TBWA/Chiat/Day. The campaign, called "Radio to the Power of X," is anchored by national 60-second spots featuring artists such as BB King, Snoop Dogg and



Snoop Dogg is shown in 'Snoop's Office,' one of eight spots in XM Satellite Radio's ad campaign.

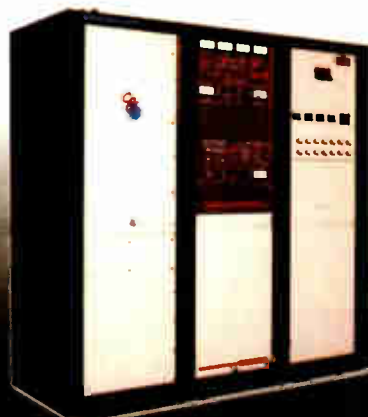
David Bowie that began airing in some 3,000 movie theatres on Aug. 10.

The spots show objects falling from the sky to show that a listener can receive  
See SATELLITE, page 16 ▶



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# ◆ NEWSWATCH ◆

## Broadcasters Mull Streaming Appeals

NAB and major radio groups were considering their options after a federal court in August backed a decision by the U.S. Copyright Office and found that stations are responsible for paying separate royalties for streamed content.

The Copyright Office has begun hearings to help an arbitration panel determine the fee amounts.

NAB and several broadcasters, including Bonneville International Corp., appealed the decision. The appeal was dismissed in August. Judge J. Berle Schiller of the U.S. District Court for the Eastern District of Pennsylvania stated in

his order that there was ample evidence to support the earlier decision.

He wrote, "I can only conclude that Congress did not intend to exempt AM/FM Webcasters from the ... public performance right."

NAB President and CEO Eddie Fritts said, "Broadcasters currently pay in excess of \$300 million annually in music licensing fees to compensate songwriters and music publishers. Any additional fee to compensate record companies would be unfair and unreasonable, and for that reason, we are reviewing our options."

Recording Industry Association President/CEO Hilary Rosen applauded the ruling.

"We are pleased that the court upheld the rights of artists and record compa-

nies. We now look forward to working with the broadcasters for a smooth transition into this marketplace.

## KNEC Fined Over EAS

The relative experience or inexperience of a station owner apparently can affect the amount of money a station is penalized for a rules violation.

The FCC fined KNEC(FM), Sterling, Colo., \$10,000 for several Emergency Alert System violations. The FCC said the station did not have EAS equipment operating when it first went on the air in 1999. The commission did credit licensee Arnold Broadcasting for having the

equipment on order.

But overall, the station was cited for failing to install and maintain operable EAS equipment, have a transmitter control system in place that would allow the transmitter to be shut down within three minutes if necessary, make required entries into the station log and designate and post the designation of a chief operator for the station.

Some of the fines were adjusted upward, the agency stated in its July order, because the licensee, William Arnold, had once served as a local EAS chairman.

Arnold stated that the FCC's guidelines for penalties don't specifically provide for adjustments based on a licensee's experience.

The commission said the criteria for increasing or reducing a fine can be affected by how much experience a licensee has in regards to "egregiousness or intent."

## Svetlana Appoints New Distributors

Tube manufacturer Svetlana of St. Petersburg, Russia, has appointed PM Components Ltd. of Chatham, England, as its primary European distributor of Svetlana glass and ceramic vacuum tubes.

See NEWSWATCH, page 15 ▶

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World Radio History

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### OPINION

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# RTNDA to Focus on Economy, Net

by Peter King

Ask any news executive what his or her hot topic might be for this month's Radio-TV News Directors Association convention, and you're likely to hear a familiar refrain: "It's the economy, stupid."

Here's what several leading news managers told Radio World when we asked them in preparation for the event in Nashville:

Marsha Taylor, news director of WDBO(AM), Orlando, Fla., and past RTNDA director at large and regional director, said money speaks loudly this year, particularly in relation to how many news jobs are being lost in a soft economy.

## Economy affects news

Ed Cavagnaro, news director of KCBS(AM), San Francisco, said, "The sluggish economy and advertising are impacting news department budgets and hiring."

CNN Radio Vice President Robert Garcia said, "Tight budgets, layoffs, the depressed state of the industry and advertising market" are hurting everyone.

CBS News Radio General Manager Constance Lloyd said a tough economy has meant cutbacks for many on beat assignments and investigative reporting.

ABC News Radio VP Chris Berry said the economic slowdown has made managers more cautious, saying it "affects ... (the industry's) ability to cover the news. It encourages us to look carefully at the decisions we make, and to 'think smart' to spend money on things that really count."

WTOP(AM), Washington, Vice President of News and Programming Jim Farley is more blunt.

"Do news directors have any autonomy at all? Can they make the strategic alliances that will allow their operations to grow? Do they do their own budgets? Are they relevant to the sales department?"

"If the answer to the last question is 'no,' then the sound you hear is a bugle blowing 'Taps.'"

CBS' Lloyd said the slowdown has increased the importance of partnerships between former competitors, such as radio-TV and radio-print. She said alliances have helped many, including CBS, expand their news product while watching the bottom line.

Associated Press Television-Radio Deputy Director and Managing Editor Brad Kalbfeld said the economic news has had one interesting side effect; he said business reporting has now placed a higher priority on "people-oriented" business coverage.

Our informal panel of news executives said one topic sure to be discussed at the show is the Chandra Levy and the media coverage of Rep. Gary Condit.

KCBS' Ed Cavagnaro said, "I imagine it will generate a lot of discussion, especially with the CBS Evening News' decision not to cover it" at first.

AP's Brad Kalbfeld said the lessons learned from the Levy/Condit stories will be talked about — "the importance of accuracy, facts and attributions of having reporters who have experience, credibility and sources."

Kalbfeld said the Internet will be an important part of the mix.

"The emergence of new economic models that crossed the line between radio and online services — e.g., WTOP's

Federal News Radio. The growing awareness of the newsroom's intellectual property in the wake of the Napster case."

WDBO's Taylor wants to know if her station's Web site will be important in the big picture a year from now.

Both Kalbfeld and CBS' Constance Lloyd say they expect to hear a lot about the broadening definition of news. Both say radio stations seem to want more news about celebrities, entertainment and a broad range of non-traditional issues.



Chris Berry



Constance Pressley



Mark Miller

Lloyd said, "The greatest challenge is changing, evolving into a 21st century news operation, growing with the times and making sure you and your product are relevant. People want to know what any given story means to them."

ABC's Berry and WTOP's Farley said managers need to talk about recruiting. Jim Farley asked, "Where do we get radio newspeople from? I find it hard to recruit from nearby smaller markets like we used to, because there are very few news people in those markets. Now, we have to run an internship program and grow our own talent ... which is tough, because so many kids want to go into television, not radio."

Chris Berry said, "Managers need to make a more concentrated effort to recruit minorities. We need more diversity on and off the air."

## The show

RTNDA officials are fond of saying, "Radio is our first name." Convention Planning Committee member and WBAL(AM), Baltimore, News Director Mark Miller said RTNDA is increasing its commitment to radio.

"The last couple of chairpersons have made a conscious commitment to showing that the 'R' in RTNDA is not becoming invisible. The 'Radio' presence on the board of directors is only getting stronger."

Miller said he's particularly excited because of technology like high-quality POTS codecs, MDs, computer editing, computer transmittal of text and audio, and the Internet.

"We can do things now that we never dreamed possible years ago. It's the cool stuff that allows people to get excited about putting together some of these panels and taking part."

Much of this year's talk will be about better use of resources such as state radio networks. Miller is producing the session, "Maximizing Your State Network." Three state network news directors and AP Radio GM Tom Callahan will talk about using state nets on air and for your Web site.

Miller said, "During a hurricane last year, one very small station was able to open its newscast by hopscotching up the coast using North Carolina News Network reporters as their own. Formatically, you can sound bigger."

Miller said that the session "Street Reporters Sound Suggestions" is one of the most popular every year.

News Director/Assistant Program Director Dan Shelley of WTMJ(AM) in Milwaukee, who also is RTNDA Region 4 Director, is producing this year's version.

"People will get great tips and hear some great war stories about things that could make their jobs easier when they're out in the field. It's not necessarily a hands-on session, but people will feel like

it was when they leave the room," he said.

"They'll get a lot of great ideas from some of the best in the business, and best of all, it's not rocket science."

"Documentary CPR" examines an art form seemingly on life support at commercial stations. Miller and Shelley say there's still plenty of high-quality documentary work out there, and it's not just in public radio.

Miller said "Birthing the Promotion" and "Delivering the Audience" is one of the most popular — and fun — panels. "Promos are played, you'll learn what worked, what didn't work and why."

He remembers a funny moment last year when promos by Washington competitors WMAL(AM) and WTOP(AM) denigrating each other were played back to back. Miller said there was a lot of laughter, but the discussion was about whether either promo really "makes someone want to listen to you."

"Making Your Program Director Your Best Friend" may seem impossible, but session producer and WSB(AM), Atlanta, Assistant PD Constance Pressley swears it can and should be done.

"News and programming should not be enemies," Pressley said.

Some other choice sessions: "Powerful Airchecking That Works," "You Can't Take it Back; Election 2000 Coverage," "How to Cover Severe Weather When You Want to See Tomorrow," "Covering the Salt Lake City 2002 Winter Olympics" and "Survivor 111; Dangers to Your Mind and Body in the Newsroom."

Finally, there's the Super Session with ABC Sports icon Jim McKay, the recipient of this year's Paul White Award. McKay provided a lesson in journalism during the terrorist attack on Israeli athletes at the 1972 Summer Olympics at Munich, telling a tragic human story while keeping his composure and perspective.

The RTNDA2001 convention will be held Sept. 12-15 at the Opryland Hotel and Convention Center in Nashville. For information visit [www.rtna.org](http://www.rtna.org).

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FROM THE EDITOR

# Dragons, Troughs & Coffee-Makers

by Paul J. McLane

Visitors to the NAB Radio Show next week can win super prizes in "The Great Remote Giveaway."

This is a neat cooperative promotion involving NAB, Radio World, Comrex, Creative Studio Solutions, Broadcasters General Store, Gepco, LPB, 360 Systems, talk-show host Banquita Cullum, BSW and MediaTouch. Several other companies were planning to take part at press time.

The participants are committed to bringing live radio back to the Radio Show.

"While we all know and love (and will cheerfully sell to) the Internet crowd, our first love is radio," said Kris Bobo of Comrex, who is helping to coordinate the event.

"What is more fun than live radio? The Great Remote Giveaway is all about live radio and the tools it takes to make live radio happen. The featured display will include a live remote broadcast under a showy display including the Comrex 16-foot-tall dragon."

The dragon will be given away — wouldn't any station love him as a new mascot? — in addition to many items from the participants including road cases, mics and headphones. Drawings for

the prizes will occur throughout the show.

Anyone interested in winning free stuff should visit the Great Remote Giveaway booth or the booths of any of the participants for an entry blank.

★ ★ ★

Radio managers and industry journalists were seeking the economic silver lining as the industry sweltered through late summer.

The RAB found something positive in its report that radio sales were down 8 percent in June from a year earlier, and that the industry was off 8 percent for the year so far.

"Radio advertising sales figures seem to have stabilized in June as softening of advertising appears to have come to an end," it announced, repeating expectations that, as national business stabilizes, good times will return by the final quarter of this year.

This is consistent with the RAB's earlier projections that the worst relative performance in 2001 would be in late spring, thanks to the unprecedented business numbers radio posted a year earlier in the final rush of the dot-com boom.

Also in August, radio giant Clear Channel's President Mark Mays said Q2 will likely turn out to have been the

"trough" in advertising and revenue comparisons.

I hope the RAB and Mays are correct. But I would caution that economic downturns frequently are not short and sweet.

Unpleasant factors like large-scale layoffs, declines in tax collections and stock valuations that are still very high on the historic P/E scale are part of our economic picture right now. It's too soon to say that the economy is out of the proverbial woods or that radio's short-term outlook is smooth.

★ ★ ★

I talked about radio equipment and safety in the Aug. 15 issue.

On a related note, I received an item from Full Compass Systems, reporting this story:

"During a recent summer lightning storm in Madison, Wis., Full Compass Sales Associate Ron Vogel was busy laying down guitar tracks in a studio session. Ron is an accomplished guitar player, and hires out for many writing and playing sessions locally.

"The studio he was working in that day was located in a house belonging to a close friend. A bolt of lightning hit the house, and as described by Ron, 'We figure the lightning came down the lightning rod on top of the house, down the earth ground, then arced inside a window that was open a crack.'

"The flash of lightning hit all the electrical gear in the studio, and glued Ron to the guitar he was playing at the time. His friend had to kick him off to break the connection.

"Fortunately, Tripp-Lite Isobars protected Ron from the full force of the blast, and also saved all the studio gear connected to it. The rest of the house was not quite as lucky. Blown-out furnaces, exploded TV sets and thousands of dollars in damage are reported.

"Ron has had no ill effects from this experience, but now garners a healthy respect for recording during lightning storms. He explains, 'If it weren't for the



Melitta Perfect Time Coffeemaker

surge protection on the gear, I probably would not be here."

★ ★ ★

Got a problem with your morning guy getting to work on time? Buy him one of these.

The Melitta Perfect Time Coffeemaker from Salton Inc. is, according to its maker, the first kitchen appliance "to incorporate radio frequency (RF) technology to stay in sync with the U.S. Atomic Clock, one of the world's most accurate time keepers."

The internal timepiece provides accurate time out of the box, and keeps time when power is lost thanks to battery backup. The coffeemaker monitors WWVB broadcasts from Ft. Collins, Colo. The user simply selects the appropriate time zone in the continental United States. The unit adjusts for Daylight Savings Time and leap years.

Because you never have to set or reset the clock, "a flashing display — the bane of VCR users everywhere — is now a thing of the past in the kitchen." Thank heavens!

Retail price: \$69.99. "Mad Mark in the Morning" will never have to miss that first cup of coffee again. ☺

Jamie Holt of Arkansas has a lovely new Nagra field recorder, thanks to his entry in our Silver Sweepstakes.

The Nagra ARES-P is a handheld solid-state recorder/player uses that uses removable PCMCIA Flash card technology to record in mono or stereo.

Nagra calls it a "field reporter's dream machine," with a built-in microphone and single-button instant record; it is compatible with most editing systems. Retail price is \$1,750.

Jamie Holt is general manager of Harrison Broadcasting Corp., KHOZ(AM-FM) in Harrison, Ark.

Have you signed up for our contest yet? Go to [www.rwonline.com](http://www.rwonline.com) because we still have great surprises left to give away this year.



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## GUEST COMMENTARY

# VOA Shortwave Is Still Best Course

*Union Official Sees Downside to VOA Cuts As Broadcaster Struggles to Modernize Program Distribution on a Budget*

VOA is looking to widen its programming distribution system from one that relies mostly on shortwave transmission to a system that includes supplementing shortwave with other delivery methods, including new media.

RW published differing views on this topic last year (RW Aug. 16 and Nov. 22, 2000) with commentaries written by Jack Quinn, engineering consultant and former Voice of America employee, and Brian Conniff, acting director of the International Broadcasting Bureau.

In this issue, Gary Marco, president, AFSCME Local 1418, follows up with his views on the latest changes at VOA and in U.S. government broadcasting in general. The American Federation of State, County and Municipal Employees represents the radio broadcast technicians at VOA. Local 1418 is part of AFSCME Council 26, which represents federal employees in the Washington metropolitan area.

by Gary Marco

**WASHINGTON** On Jan. 19, 2001, the last full day of the Clinton administration, the International Broadcasting Board of Governors, which oversees the Voice of America and other U.S. government broadcasting services, said it would lay off 34 employees and stop programming in three languages, as well as reduce the amount of programming in five other languages.

Ungar chaired a meeting for VOA employees on Jan. 19. However, nowhere in evidence were any of the members of the Board of Governors, the body responsible for the decision to make the cuts. Under the circumstances, the appearance of board indifference is all too corporate, antiseptic and removed from the people who bear the burden of decisions made, whether good or bad, right or wrong.

(Editor's note: To explain the cuts, VOA does not expect to see its \$110 million budget grow in the near term and perhaps not even keep up with inflation, Douglas Rivlin, the public affairs adviser to VOA Director Sanford Ungar told *The Washington Post*.

By law, the board must review broadcast operations each year. Last year's review led to the elimination of about 50 jobs.)

The Voice of America is not an institution that reacts well to one blow after another to its operations or psyche. Understandably, questions are being raised within the organization and by American media regarding how decisions are being made by the Board of Governors and what oversight is being given to its actions.

How is it that a body that meets only periodically can make sweeping sea changes to the operations of this agency? The board may be tasked with doing an annual assessment of the effectiveness of VOA language services, but the decision to make changes regarding these broadcasts should be done elsewhere.

With more than 20 years of service at VOA, I believe this may be the agency's most difficult hour. In particular, deci-

sions made over the last several years regarding VOA operations have dimin-



Gary Marco in a VOA Studio During a Live Broadcast

ished VOA effectiveness as an international broadcaster, in general, and the official (and primary) broadcasting medium of the U.S. government, specifically.

In fact, a General Accounting Office report in 2000 used the term "diminished role" to describe the VOA of the future.

Last year, Conniff acknowledged that radio is the mainstay of U.S. government broadcasting operations. However, for VOA, the fact of the matter is that the radio services have been hollowed out through a variety of means: cutbacks in shortwave transmissions, reliance upon so-called "affiliates" in the target areas, satellite transmissions instead of direct broadcasts, language-service reductions and, worst of all, a horrid format change in its main English-language broadcasts.

## Coverage gaps

One of the best examples of gaps in VOA broadcast coverage is in Russian Siberia. Russian language-service broadcasters lament the fact that a large chunk of Russian territory, with a substantial population reliant upon shortwave radio (and with significant strategic military installations), is being abandoned by VOA.

At the same time, while eliminating Uzbek language broadcasts to Uzbekistan in the latest round of announced cuts, the agency plans to add Russian-language broadcasts to the country, an odd move, since the Russian language symbolically represents the language of former Soviet occupation.

The "multimedia" approach fancied by the Board of Governors aces a rather formidable task of building television and Internet audiences from the ground up, a time-consuming task that may never be realized and would require substantial funding, which Congress does not seem to be inclined to provide.

Furthermore, agency officials seem to believe that if they get into television and the Internet, people are going to spend considerable time locked into either. I find it difficult to believe that this will happen in a timely, cost-effective manner.

Agency officials will not admit that

they are whipsawed on the television issue. On the one hand, television is available in many parts of the world, offering a wide selection of programs. On the other hand, there are parts of the world where television is beyond the financial reach of common people and cannot be delivered reliably.

There has to be an identified audience of sufficient numbers to justify a proliferation of television programs. At the same time, there also should be a dollar-for-dollar cost analysis of a person reached by a VOA radio broadcast as opposed to a VOA TV show, not only in terms of what VOA spends on each, but what the costs are to the listener at the other end. What is more affordable and more likely for the person in the target region?

## Who is watching

Agency officials don't have far to go to study audience share. Every night in the Washington area, a public television station broadcasts the British Broadcasting Corp.'s television world news program. The program is broadcast in evening drivetime, in a time slot shared with the major U.S. television networks' news broadcasts.

There is no doubt that someone is watching the BBC program. However, the question is how many, and what is the impact of this programming vs. the domestic American news broadcasts being aired at the same time.

For people in restrictive societies, it stretches belief to presume that people are going to put out the money for satellite

See VOA, page 14 ▶

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# Jefferson

► Continued from page 1 notch," Jefferson said.

Jefferson said NPR is nearing the end of its transition from analog to digital audio broadcasting.

Her enthusiasm for the introduction of satellite radio later this year remains strong, despite an announcement by NPR that it had scaled back plans to develop content for two Sirius Satellite Radio channels until Sirius sets a firm launch date.

"It will be interesting to watch the evolution. I think the impact of satellite radio will be minimal at first, but likely to grow. It's good that Sirius signed programming deals with us and other broadcasters to program some channels," Jefferson said.

## Leadership training

"It's going to be like cable in the beginning, people will wait and see to decide if they want to pay for the service. Some will and some won't," she said.

With more than 20 years of engineering experience in radio and television, Jefferson now is taking steps to someday own her own radio or television station. She recently completed the Broadcast Leadership Training Program for the National Association of Broadcasters Education Foundation. One of the program's goals is to promote diversity in the ownership ranks.

"So many people think of diversity in terms of programming and audience, but not so much when it comes to who owns a station. I think it's important that it happens from the top down," Jefferson said.

During the class, which met one weekend a month for 10 months, participants heard lectures from bankers, venture capitalists, lawyers and other owners — the "people who actually make the deals," she said (RW, July 18).

Jefferson believes it won't be easy making the jump to station ownership, but at least she has all of the information

10 THE MIAMI TIMES Thursday, March 8, 1979

## TV Broadcast Engineer Enjoys Job

By Maddia Thompson

How many people, when they click on their television sets, realize that the life-like images appearing before them are there because of the coordinated work efforts of at least six to eight, and often more people?

"Not many," says 24-year-old Carmille Ricks, broadcast engineer at WPLG-TV, (Channel 10.) Ricks, obviously involved with a job she enjoys, unhesitatingly explains that her position may require her to operate such equipment as a video tape machine, a T.V. camera, audio tape machine, projection machine or to work in master control.

All these operations, carried out harmoniously by qualified people are responsible for what goes on the air, Ricks told The Times.

According to her impressive resume', the young, black, single Washington, D.C. native is certainly not lacking in qualifications. Holding a bachelor's degree in TV Engineering from the University of Maryland, she has also studied broadcast journalism at the University of Kansas and Fordham University in New York City.



In this Miami Times story from 1979, Camille Jefferson, then Camille Ricks, is shown operating a studio camera at WPLG(TV) in Miami.

she will need to proceed someday.

"It's a goal I have. I've made some very good connections and know how to go out and get financing and what those people will be looking for. It was really a chance to become known to those who can get you the money," she said.

Joining Black Entertainment Television in 1996, Jefferson ran master control as operator, network operations. Prior to that, she was technical operations supervisor for KTBC(TV), Austin, Texas, and production manager for WNJR(AM), Newark, N.J.

Her first job after completing her undergraduate work was with the former WRC(AM) and WKYS(FM), Washington, as a community affairs assistant.

"I remember being intrigued by the entertainment industry as a kid. The technology of radio and television always seemed magical to me. I've always been interested in how things that

## Jeffersonian Words

When NPR hired Camille Jefferson, it was a real find to bring in a manager with extensive network, radio and video background. We needed someone with sound judgment on long-term scheduling, recruitment and career advancement, and she has admirably filled those shoes.

— Mike Starling  
Vice President  
Engineering & Operations  
NPR

I've known Camille for 22 years. She is generous, insightful and extremely intelligent. She helped me get my start in television engineering.

She gave me the confidence to do the job and to make sure the job was done right.

— Diane Wilson  
Master Control Supervisor  
Black Entertainment Television

Camille was a hands-on engineer and is a hands-on manager. I have seen her grow into a true professional.

She loves a challenge and is constantly looking to grow and learn.

— Rhonda Lundy  
Director Administrative Services  
NPR

In her job at NPR, Jefferson is the key decision-maker for hiring audio technicians for NPR's Washington facility. NPR technicians perform a variety of tasks, including mixing audio from several sources in on-air studios and recording reporters and sound in the field.



Camille Jefferson and Technician Vince Muse working on a newly installed Studer D950.

are hard to explain actually work, plus the whole art of communication," Jefferson said.

After graduating from the University of Maryland with a bachelor's degree in radio/TV/film in 1977, Jefferson took some time off from school before receiving her master's degree in telecommunications management from Saint Edwards University in Austin, Texas, in 1993.

For Jefferson, being a woman and working in the male-dominated field of broadcast engineering has been fun.

"It's cool working with so many men," Jefferson said.

"I've hired probably 42 techs since I've been here (since 1997), and a number have been women. Out of nearly 70 engineers at our Washington facility, right now we have 12 women," she said.

Jefferson feels the opportunities for young women entering the profession now are greater than when she began her career. The room for growth and advancement possibilities is there for the taking, though it takes a serious commitment to succeed, she said.

"My advice to young women would be to understand the importance of flexibility.

See JEFFERSON, page 7 ►

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**DIGITAL NEWS**

**Ibiquity Early Adopter Board Grows**

Ibiquity Digital Corp. has added several members to its advisory board to promote early adoption of in-band, on-channel digital audio broadcasting. Rollout advisory board members are:

- Dale Fedorchik, vice president and regional engineer, Eastern States, Citadel Communications Corp.
- Bert Goldman, vice president of engineering, Radio Division, ABC Inc.
- Eugene Hale, chief engineer, WSBT stations, South Bend, Ind.
- Alan Kirschner, vice president of Engineering, Big City Radio
- Hal Kneller, president, Heartland Broadcasting Corp.
- Don Lockett, vice president and chief technology officer, NPR

• Hal Widsten, owner and general manager, KWED(AM), San Antonio, Texas

Also added to the board, from the staff of Ibiquity, are Jeff Detweiler, broadcast technology manager, Scott Stull, director of broadcast business development and Glynn Walden, vice president of broadcast engineering.



Hal Widsten



Jeff Detweiler



Eugene Hale



Bert Goldman

**Jefferson**

► Continued from page 6

If you are not going to be available on nights, weekends and holidays, this probably isn't the best career choice," Jefferson said.

She acknowledges that a career in broadcast engineering doesn't always lend itself to a settled family life.

"Women typically are given the primary responsibility of raising the children. Well, engineering is a 24-hours-a-day commitment. That can be a big point of stress," she said.

Jefferson stresses the importance of joining organizations to network with people in the broadcast industry. The reluctance of engineers, particularly women, to join peer organizations can hinder career advancement.

"SBE is great, but you have to expand beyond that and be diverse. AWRT (American Women in Radio and Television) is a group I've been active in that has been very helpful," she said.

Jefferson recently joined the National Association of Minority Media Executives. Both NAMME and AWRT provide mentoring programs, leadership training and great networking possibilities, she said.

A typical day for Jefferson might include scheduling technicians for remotes and developing training programs.

Recently, she has been involved in strategy meetings for upcoming union negotiations with the National Association of Broadcast Employees and Technicians.

"It's very busy work. Some of my work is logistical as far as getting people and equipment to the right spots. When you are managing this many people and have 19 studios to watch over, scheduling conflicts arise at times," she said.

In charge of hiring, scheduling and development of her staff, Jefferson no longer finds herself running coax or supervising a television master control room.

"I'm not hands-on engineering at this point. I miss it though," she said. Jefferson reports to Bob Nock, director of audio engineering for NPR.

Jefferson lives in Potomac Falls, Va., with son Omari, 20, and daughter Kamelah, 15.

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## BUSINESS DIGEST

**Ad Trough' Over?**

The nation's largest radio owner, Clear Channel Communications, sees signs of "clearly improving" radio demand, according to President Mark Mays.

The second quarter will likely turn out to have been the "trough" in terms of advertising and revenue comparisons, Mays told investors and analysts.

The day after Mays' remarks in August, the Radio Advertising Bureau announced June sales figures that it said could indicate an end of the overall softening in radio ad sales.

Combined local and national dollars were down 8 percent that month, compared to the year before. Local numbers

dropped 4 percent; national declined 20 percent. Despite these declines, the RAB took a positive view of the trends.

"Radio's core business remains solid," said President/CEO Gary Fries. "As national (business) stabilizes, all indicators point to a turn toward positive growth for radio" in Q4.

Clear Channel posted net revenues of \$2.2 billion for Q2, an increase of 126 percent over a year earlier. After-tax cash flow rose 73 percent for the quarter to \$470 million when compared to the same period a year ago.

The big company's radio division reported a revenue increase of 96 percent to \$941 million for Q2. During the second quarter, Clear Channel continued the integration of AMFM Inc.

The continued integration of that group, coupled with strong ratings gains

in a majority of its markets, positions the radio division to continue positive performance, the company stated.

Mays said the company expects an advertising upswing for Q3, with growth already showing in the auto, telecommunications, retail and travel categories.

**CRL Seals Avocet Deal**

**TEMPE, Ariz.** Circuit Research Labs Inc. has completed its acquisition of Avocet Instruments Inc. Avocet, a designer and manufacturer of audio receivers and coders for the TV industry, has relocated its operations from Beaverton, Ore., to CRL's Tempe, Ariz.,

headquarters.

Kevin Clayborn takes on the position of product manager for Avocet products. Eric Lane, the former CEO of Avocet, has joined the Urban/CRL marketing and sales team as a consultant.

**Aftermarket Autosound Sales Rise**

**ARLINGTON, Va.** Figures released by the Consumer Electronics Association showed an increase in aftermarket autosound sales in late spring of this year.

According to the CEA, manufacturer-to-dealer sales increased by 9 percent during May 2001 to nearly \$208 million in sales revenue. That's up from \$190 million in May of 2000.

In-dash CD players made up a large chunk — more than 50 percent — of the increase in the aftermarket autosound category. Mobile speakers also marked solid growth as did midrange/tweeter packages. Factory-to-dealer sales of bass speakers rose by 29 percent as did enclosed speakers.

**ENCO Moves**

**SOUTHFIELD, Mich.** ENCO Systems Inc. employees have moved into a new office and manufacturing plant in Southfield, Mich.

The new building, a few miles away from the old one in Farmington Hills, has nearly twice the footage. Besides additional space for manufacturing, testing and research and development, the building allows an enhanced Digital Audio Delivery School area for training current and future DADpro32 users.

Gene Novacek, president of ENCO Systems, stated, "The bigger this company gets, the tougher the moves become. This is the third time in five years we've essentially doubled our square footage."

ENCO's new address is 29444 Northwestern Highway, Southfield, MI 48034. The toll-free is (800) 362-6797; the business line is now (248) 827-4440 and fax is now (248) 827-4441.

**Gentner Ranked No. 7 by Fortune**

**SALT LAKE CITY** Gentner Communications Corp. has been ranked No. 7 by Fortune Magazine on its Small Business inaugural list of 100 Fastest-Growing Small Companies in America.

Companies were ranked according to three criteria: earnings growth, revenue growth and total stock return including dividends for calendar year 2000. The rankings in each area were then averaged to determine the 100 fastest-growing companies.

Fortune Small Business compiled the list with the help of Zack's Investment Research, considering only public companies with \$200 million or less in revenue for 2000.

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# Colleagues Recall Robert Silliman

*Late Owner of ERI Remembered as Engineer, Antenna Innovator and Lifetime Achiever*

by Gregory J. Robb

**BALTIMORE** "He was a good engineer, but he was a great man."

The speaker is Tom Silliman, president of Electronics Research Inc., talking about his father, Robert. The elder Silliman died earlier this year at age 87.

Engineers recall Robert Silliman as a man with exacting standards, a passion for spreading knowledge of his work, and a wicked wit.

Many peers said Robert Silliman's "talk down method" of AM directional antenna adjustment might be his biggest contribution to the profession.

## NASA buddy

Robert Silliman earned his bachelor's degree in electrical engineering at the University of Minnesota in 1936, then spent several decades rubbing elbows with engineering pioneers.

Silliman befriended Robert Gilruth when both were boys. Gilruth went on to become the director of the Mercury astronaut program and later the Manned Spacecraft Center in Houston, now called the Johnson Space Center, for the National Aeronautics and Space Administration.

Silliman worked under the direction of

Dr. Jean Piccard to conduct experiments with high-altitude balloons in the 1930s. He began a 50-year practice in radio consulting in 1946 and worked as an engineer for the FCC, Harvard University's radio research lab and the Bureau of Aeronautics for the U.S. Navy during World War II.

Robert Silliman received a Lifetime Achievement Award from the NAB in 1993.

"We were closer friends than we were father and son," said Tom Silliman. He worked on engineering projects with his father's help, throughout high school and college. The working relationship between father and son continued for four decades.

"I've got a stack of patents 6 inches tall. ... He patented the 425 high-power isolation transformer which, even today, is considered the 'Cadillac' of the AM/FM combining transformers available in the world today," said Tom.

"I designed that with him over a Christmas vacation when I was in college. ... He patented that."

Robert Silliman hired broadcast engineer Jim Kemman to work with the consulting firm Silliman, Moffatt and Kowalski in 1964. Kemman was the engineer for WLAN(AM-FM), Lancaster, Pa. at the time. Kemman said Silliman was a

key problem-solver for some big clients, such as NASA.

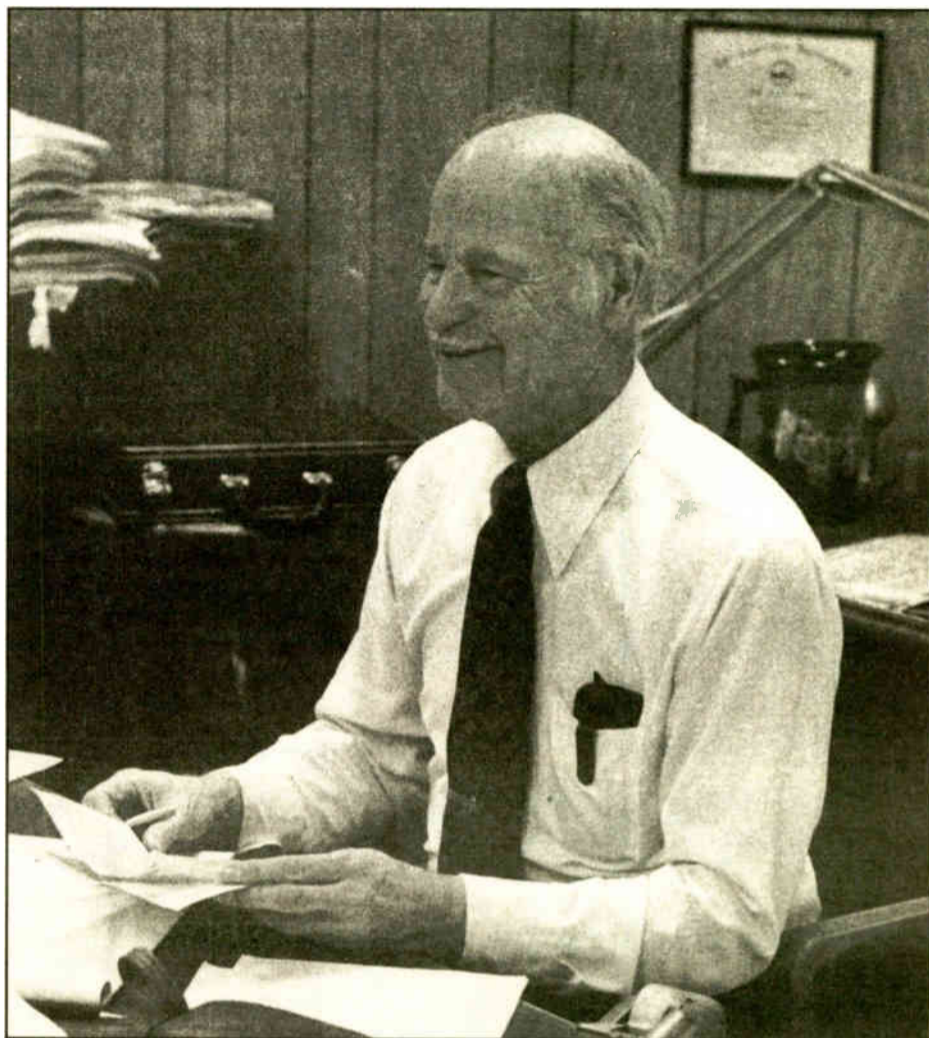
"I think they had a problem with a down-range tracking station at one point," said Kemman. So Silliman traveled to Chile and helped to solve that problem, Kemman learned.

"NASA had an array of dipoles that they were building in various countries," said Tom.

"Until Bob began the production of really good antennas, the ones you could buy were not terribly satisfactory. Some of his techniques have great practical application that are, even now, not well understood."

## Good antennas

Tom Silliman used this anecdote to best describe his father: "In 1964, the summer before I went to college, he said, 'I need you. I've got a lot of work this summer. I'm shorthanded. I want you to come down to the consulting firm.' I



Robert Silliman

"He (Robert) analyzed the array. ... The end result was that the antenna was screwed up and his firm straightened it out."

Robert Silliman's relationship with Electronics Research Inc. began in 1947, according to Kemman, when Silliman was contracted to consult for ERI. At that time, Silliman began a parallel career as an antenna manufacturer, and he would later buy ERI, then located in Evansville, Ind., and become the company's president and chairman.

Ben Dawson, P.E., managing partner and senior engineer for Hatfield and Dawson, said Robert Silliman also possessed other skills.

"Of all the engineers that I have ever known, and I've known a bunch, Bob was easily one of the two or three best teachers.

"He was just a wonderfully gracious person. ... When we had a question about some more esoteric part of antenna engineering, we'd bounce our ideas off Bob," Dawson said.

On Feb. 12, 87-year-old Robert Mitchell Silliman died in Baltimore. Tom said his father's health had been declining since he suffered a stroke in 1997.

What will Bob Silliman be most remembered for?

"Through his company, Electronic Research, he really pioneered the production of high-quality, mass-produced site-mount FM antennae," said Dawson.

made about four dollars an hour.

"I went to Cornell at my freshman year, and they told us that the future of the world was computers. If you didn't understand computers by Christmas, you flunked out. The language Cornell was using was CORC (Cooperative Online Resource Cataloging).

"I learned CORC and I was programming CORC. When I went home for Thanksgiving, I took a couple of my programs and brought them home to my dad. We sat down and had bourbon and I said, 'Let me show you what I'm doing at Cornell.' I took this book out and ... I showed him the printout, I showed him the language. That night, he read my book.

"He went down to his office and copied all hundred-some pages of that stupid book. He said, 'You know, you're right. I've got to learn this.'

"When I came back at Christmas, his whole office was computerized. That's how innovative he was. He was the first consulting engineer in the United States, to my knowledge, to program the calculations in the computer instead of doing them by hand," said Tom Silliman.

Robert Silliman is buried at Lakeview Cemetery in New Canaan, Conn., where his ancestors settled in the early 1700s.

He is survived by his wife of 62 years, Elizabeth; three daughters; son Tom; and nine grandchildren. 🌐

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# BBC Weighs FM, Net Distribution

by Michael Hedges

**GENEVA** Hardly three years ago, the days of shortwave transmitters were numbered and the Internet was all the rage among international broadcasters.

FM rebroadcasts went on the back burner and satellite distribution was the next bright, shiny object in the sky. But that's changing.

The background: Several international broadcasters, including the Voice of America, have agreements with FM stations to carry their programming for various portions of the day. This so-called "rebroadcasting" on FM often is done in cities where a shortwave signal might not be able to travel through urban canyons.

## FM comeback

The BBC and other international broadcasters usually give the FM station the programming for free and the broadcasters sometimes contribute satellite reception equipment to the stations.

Now FM rebroadcasts are making a comeback.

The BBC World Service, for example, recently ended its shortwave service to the United States, saying more Americans listen to its programs on the Internet than they do on shortwave.

The BBC plans to use the money it

would have spent maintaining and replacing aging transmitters for that purpose on beefing up its FM facilities for rebroadcasting its programming to

broadcasters as their attitudes about program distribution evolve.

"I am not sure the Internet craze is over, but (it's) more a case of segment-



A Press Conference in Blantyre, Malawi, Announcing BBC on FM

other parts of the world.

Allen Cooper, who chaired the Committee of International Broadcasting Audience Research conference three years ago, believes there's an "inevitable dawning" of realism by international

ing your audiences in terms of the most appropriate reception technology," Cooper said.

FM rebroadcasting offers international broadcasters a number of advantages, according to Tom Walters, head of the Association for International Broadcasting.

Rebroadcasting, said Walters, has the advantage of a good quality signal via modestly priced and commonly available radios, a broadcast radius of some 30 miles or more, broadcasting alongside popular local stations on a highly used band.

"The original broadcaster gets free airtime and the rebroadcaster gets high production values for nothing," Walters said.

He also pointed to one significant disadvantage. The international broadcasters are "at the mercy of the rebroadcaster, who can mess around with your programs, even take them off the air."

Except in the biggest cities, said Walters, the only practical way to distribute programs to the widest possible audience is to use rebroadcasters. For a program producer to have its own FM station in a large number of towns and cities would be prohibitively expensive to set up and operate.

The FM rebroadcast strategy of one of the largest broadcasters in the world comes as no surprise.

"The BBC World Service is well down the track toward its aim of getting FM rebroadcast arrangements in every capital city in the world," Walters said.

## Cultural accessibility

Nowhere is this more plainly evident than in Africa, where the BBC World Service has FM transmitters in 16 nations. While not confirming a global strategy of FM transmission in every world capital, Michel Lobelle, BBC broadcast manager for Africa and the Middle East, said this goal will shortly be achieved in Africa.

"By the end of this year we will be in 35 African cities. Our strategy is to be in every capital city in Africa as

well as other cities," Lobelle said. The BBC World Service already has FM agreements with state broadcasters in several nations and with private broadcasters in others.

Radio France Internationale also has a network of FM stations in Africa, where francophone radio is culturally accessible.

The Voice of America is set to start its first FM station on the continent in Nairobi, Kenya. According to Lobelle, however, VOA has been slow to move into this area.

New deregulation and more broad-based strategic alliances between governments often facilitate broadcast partnerships in developing countries, although not all governments look favorably on local distribution of programming by foreign governments.

South Africa currently bans certain foreign-originated programming. Russia and several East European governments have announced decisions to limit the reach of international broadcasters through local FM and AM frequencies.

The debate in Russia could affect the radio networks of Radio Free Europe/Radio Liberty, which has come under criticism for political reporting.

## Capital interest

The arrangements between the BBC World Service and its foreign broadcast partners take several forms. Often these are barter transactions, with the local broadcaster agreeing to air several hours of BBC World Service programs in return for technical support or training for on-air staff.

"Of course, there are transmission costs," said Lobelle, alluding to the occasional cash payment. He would not disclose the BBC World Service budget for acquiring rebroadcasting.

The recent purchase of a significant minority interest in a Geneva-based radio station by the BBC World Service suggests that money is available for such transactions and that BBC interests include, as suggested, every world capital.

Not all international broadcasters have the same large-scope plans. Swiss pubcaster SSR-SRG Idée Suisse remains committed to its Internet and DAB strategies.

Hans Strassmann, head of engineering for SSR-SRG, said the shortwave services of Swiss Radio International will migrate to the Internet.


"We have decided on a follower strategy ... because markets in Switzerland are too little to follow a pioneer strategy in technical matters."

Strassmann said SSR-SRG uses on-demand Internet distribution for listeners who miss live transmissions as well as for communication and marketing purposes.

But while its foreign broadcasts are shifting to the Internet, domestically, Strassmann said, FM distribution will continue for the next two to three decades.

"That is why we plan to optimize technical FM distribution in Switzerland," he said. "We do not have any interests in FM frequencies abroad."

According to Strassmann, it makes no sense to evaluate cost benefits of terrestrial versus Internet distribution because these are two different, complementary things.

"We use both," he said, "each with their advantage." 

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— Paul Burt, Clear Channel, New Orleans

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— Steve Kirsch, Silver Lake Audio, New York

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World Radio History

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# VOA

► Continued from page 5

dishes and take the attendant political risks to watch "VOA TV."

As to the Internet, even if there was unrestricted worldwide access to the Internet, it is unlikely that people will spend hours on a VOA Web site to the exclusion of everything else on the Web or in their lives. Further, VOA doesn't take into account such things as the cost of a personal computer and online access. Since VOA already has a Web site ([www.voa.gov](http://www.voa.gov)), it would be interesting to see where people are logging on from.

## Employees react

It would not be surprising if most log-ons were from North America, Western Europe and other developed countries where the Internet has made its most significant media inroads. If that is the case, these are not areas generally identified as target regions for VOA programs.

Agency officials tout the number of hits on the VOA Web site as proof that our news and information materials are getting through to people, even in countries where such access is generally considered to be restricted or limited. Discussions with VOA language-service personnel appear to indicate that the main site is being hit, but foreign government-controlled servers in some countries have firewalls built around the home page that make it difficult or impossible to go deeper into the site for information.

When getting "shelled" by lukewarm employee reactions to these initiatives, agency officials respond with some unique rationales for VOA's broadcasting decisions.

One of these has been the argument that we are broadcasting to societal elites in target areas. Well, if the elite happens to be Saddam Hussein or someone similarly ill-disposed toward the United

to do with politics, but rather involved discussions of health care, agriculture, science, medicine and day-to-day aspects of American culture. These subjects boil down to the practical issues of improving living standards. They may have as much or possibly more impact on political change than simply touting our virtues as the standard-bearer of democracy for the world.

by British military historian Max Hastings, published in 1987.

The lesson learned from this experience should be that what we say, or don't say, is just as important as what we do. For VOA, continuity goes hand-in-hand with credibility, as does being an international broadcaster rather than someone trying to finesse pockets of "multimedia" or "elite" audiences.

In the recent Ken Burns documentary, "Jazz," one of the ablest commentators about the music and its effect on American society is Wynton Marsalis. His comments about jazz and its relation to the American democratic experience are words that the world should hear. Unfortunately, in present VOA operations, where most music programs are now on satellite circuits and not on short-wave broadcasts, the music and message are being lost to millions of people around the world who should hear and need to hear both.

## Shortwave cost-effective

International shortwave radio may not be glamorous or enjoy technological cachet. But to my thinking, it remains the most cost-effective means of reaching large audiences around the world. I do not believe that what the agency is doing in the areas of television or the Internet will be able to duplicate a well-directed international radio effort, now or in the foreseeable future.

Marco is president, AFSCME local 1418. Reach him at (202) 619-0126 or via e-mail to [gmarco1418@aol.com](mailto:gmarco1418@aol.com)

RW welcomes other points of view. ●

## Even if there was unrestricted worldwide access to the Internet, it is unlikely that people will spend hours on a VOA Web site.

States, what is the point? The elites have a stake in the status quo. How is a broadcast by one's adversary going to alter his or her views?

Platitudes about VOA being a source of hope and freedom are all fine and good and worked well in the Cold War era. But in the 21st century, it may be just as important to be a reliable source of news and information relevant to conditions on the ground in a particular target area.

Until the format change some time ago, some of the most popular English programs broadcast by VOA had nothing

This is particularly true when foreign elements adverse to our way of life, politically and otherwise, can interpret VOA program reductions as an abandonment of people and regions targeted for these cuts.

In early 1950, then-Secretary of State Dean Acheson made a speech in Washington at the National Press Club, intending to define U.S. vital interests in the Far East. Inadvertently, South Korea was left out of the speech. Within months, North Korea invaded South Korea, according to "The Korean War,"

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# ◆ NEWSWATCH ◆

▶ Continued from page 2

PM of America, in Memphis, Tenn., has been formed to handle distribution responsibilities for North America.

"It is hoped that this joint communiqué will clarify the revised distribution arrangement for Svetlana tubes and will eliminate the supply problems caused as a consequence of stopping product distribution through SED Inc. of Huntsville, Ala.," Svetlana and PM Components stated.

For more information, contact PM of America Inc. via e-mail at [info@svetlanausa.com](mailto:info@svetlanausa.com) or by telephone at (901) 388-2424.

## S.D. Allows Electronic Coverage

**WASHINGTON** South Dakota has become the 50th and final state to allow cameras and tape recorders in its courtrooms. In a ruling signed in July, the South Dakota Supreme Court stated that it would allow video and audio coverage of oral arguments. Radio-Television News Directors Association officials praised the ruling, which took effect immediately.

"This is an important first step for electronic journalists and citizens across South Dakota," stated Mark Millage, RTNDA chairman and news director at KELO(TV), Sioux Falls.

For many years, South Dakota and Mississippi were the only holdouts among the states. On April 2, the Mississippi Supreme Court began video coverage of its hearings, and is studying expanding into state appellate courts.

## Luongo to Lead Pioneer Library

**COLLEGE PARK, Md.** Lucille Luongo, longtime communications chief of Katz Media Group, has been named president/CEO of the Broadcast Pioneers Library of American Broadcasting.

The library is home to one of the

most comprehensive and outstanding collections of broadcast historical materials in the United States, said Ramsey Woodworth, chair of the Broadcast Pioneers Educational Fund.

The Broadcast Pioneers Library of American Broadcasting is located on the University of Maryland, College Park campus in the Hornbake Library ([www.lib.umd.edu/UMCP/LAB](http://www.lib.umd.edu/UMCP/LAB)).

Luongo's broadcast career spans more than two decades.

She was with Katz Media Group from 1978 until 1997, where she was senior vice president of corporate communications.

Since 1997 she has been a principal

of Bridge Media Inc., a corporate communications and event-production company handling communications, marketing and public relations projects for companies such as Clear Channel Television, Katz Media Group and SmartRoute Systems.

## Crown Names New President

**ELKHART, Ind.** Blake Augsburger is the new president of Crown Audio.

According to Mark Terry, Harman

Professional Group president, Augsburger is responsible for overseeing and directing the entire Crown Audio operation.

The manufacturer's three vice presidents (engineering, marketing and sales) and three senior vice presidents (financial, manufacturing and human resources) all now report to Augsburger.

Prior to joining Crown, he was vice president and general manager for two high-voltage test and measurement equipment manufacturers, Hipotronics of Brewster, N.Y., and Haefely Test AG of Basel, Switzerland, both Hubbell Inc. companies.

Terry said that under Augsburger's leadership, Crown anticipates increasing its fiscal growth, particularly in international markets.

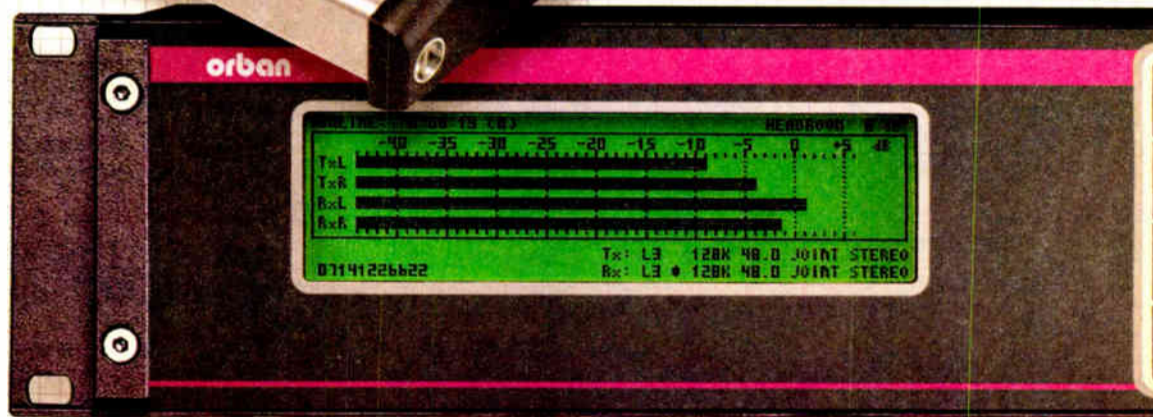
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## Corrections

A story in the Aug. 1 issue incorrectly identified Scott Petersen's station on page 1. He is with KFMF(FM), Chico, Calif.

The Aug. 1 story about frequency coordination at the upcoming Olympics did not make clear that although this is the first time such fees are being charged in this country, frequency coordination fees have been charged in other countries. There are around 10,000 broadcast rights-holders, and the Salt Lake Organizing Committee will assign about 1,500 frequencies. Also, radio rentals will be limited to two locations.

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**Hogan Is New Clear Channel Radio President/COO**

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**RW NEWS BYTES**

from the editors of

**Radio World**

## Satellite

► Continued from page 1  
music anywhere, according to Lee Clow, chairman and worldwide creative director for TBWA/Chiat/Day.

For example, "Classical Rain," a 30-second spot, depicts a truck falling from the sky and smashing instruments to introduce viewers to XM's classical channel. Another spot shows a racecar dropping from the sky to illustrate the NASCAR channel.

XM's effort includes national radio, magazines, newspapers, direct mail, outdoor and online. About \$45 million of its ad budget will be spent in the fourth quarter.

### 'Got Milk?'

Sirius plans a similar effort but says it considers TV to be part of the campaign, rather than its anchor. Its ad agency, Goodby, Silverstein & Partners, is known for the "Got Milk?" campaign.

"Their trademark has been to build brands with an edgy, cool attitude. We're sure our

campaign will fall into the footsteps of some of these incredible things they've done," said Sirius Vice President of Marketing Doug Wilsterman.

Reluctant to place a dollar amount on Sirius' advertising efforts, Wilsterman called it a "competitive" campaign that will build on its elements. The first began in June with print ads inserted in mobile enthusiast magazines in conjunction with Sirius sponsorship of autosound competition events.

The magazine effort was to expand to trucker publications in August along with events featuring Sirius' trucker channel celebrities, then to music enthusiast magazines and finally broad-based consumer magazines.

National radio ads are an important component for the XM and Sirius campaigns. Both companies said it was too early to identify radio markets or formats on which they intend to buy time.

Clear Channel Communications has an ownership stake in XM, so those stations are expected to figure prominently in XM's targeted radio markets, although XM's Steve Cooke, vice president of retail marketing and distribution, said Clear Channel stations are not the only ones that will be used.

"Radio — it's a great way to reach the people that are our target consumers," said Wilsterman.

Wall Street sources and ad observers consider the way in which XM and Sirius handle their product launches is critical to the success of the product category.

"It won't succeed or fail on day one, but Sept. 12 will be a good indicator of how well the market will receive pay radio," said satellite business consultant Steve Blum, president, Tellus Venture Associates.

XM's plans a so-called "soft launch" in Dallas/Ft. Worth and San Diego on Sept. 12. The area has good weather, a relatively young population, limited public transportation and open spaces to limit the chance of signal blockage, said several sources.

XM said music sales and consumer electronics sales are high in those markets as well.

"If you're someone who spends an hour or so driving each day, that's a better target than a city where a lot of people are riding a subway," said one advertising source.

XM plans to expand the service to the rest of the southwest, including Los Angeles and Denver, by mid-October. Its receiver partners would count on stocking shelves nationwide with compatible receivers and antennas by mid-November, coinciding with XM's media efforts expanding nationwide.

XM won't have all of its terrestrial repeater sites completed when it begins its



This print ad for Sirius Satellite Radio runs through the end of the year in magazines aimed at mobile enthusiasts.

rollout. This, coupled with the phased-in rollout, may be risky, said one analyst, who questioned the ability of the signal to be received if a consumer bought a unit in the southwest and then drove a few states away and expected to hear the service.

XM says its satellites are performing better than expected, and that it won't need all planned 12,000 repeaters to launch its service.

### Nationwide

Sirius has a different service launch approach.

"We think it's important for the consumer to understand that satellite radio truly is a nationwide service, and when we launch, we plan on going it on a nationwide basis," said Wilsterman.

Several advertising execs said that by waiting, Sirius has the opportunity to watch and learn from XM's gradual rollout.

What does XM gain by this approach? "They've got to come out with their guns in September. ... Stuff that got no response, or didn't work, you cut it out of your national (ad) rollout, to minimize risk," said Broadcast TN Media Executive Director Howard Nass.

Key to the availability of aftermarket satellite receivers this fall is the process of putting receiver chips in the hands of manufacturers.

Sirius says Agere Systems expects to ship production chips to receiver manufacturers in the fall, while XM's chipmaker of choice, STMicroelectronics, said it was shipping chips for use in XM radios in August.

XM and Sirius salespeople have been traveling to consumer electronics stores, training retail employees how to move satellite radios. Sirius estimates it has trained 10,000 salespeople so far as part of its participation, with Kenwood USA Corp., in the Mobile Electronics Retailers Association.

Sirius says it will have 5,000 points of distribution when it launches service.

XM and Sirius are spending money on point-of-purchase advertising with custom end-aisle displays.

"They're not just plopping a radio in their normal product wall, they're building big displays to highlight satellite radio," said Cooke.

In some locations, XM and Sirius will share so-called "listening kiosks" where consumers can hear the product.

Along with programs, consumers will hear statistics about the programming choices, the XM fee of \$9.99 per month with commercials on most of the music channels, and \$12.95 per month for Sirius with no commercials on music channels.

### Listening kiosks

To reach other potential early adopters, XM plans to have listening kiosks at concert venues owned by Clear Channel Entertainment, which bought SFX Entertainment. Sirius has a similar event-sampling deal with the House of Blues concert venues.

Both XM and Sirius have re-vamped their Web sites to enable potential customers to sample music channels and order on the sites.

Putting radios in cars has taken longer than both companies originally thought it would.

"It's a significant issue that will slow down consumer adoption," said Ryan Jones of The Yankee Group.

Why are automakers slow to adopt? Satellite radio has yet to be proven, Ryan said, and the economic slowdown has a part.

"In tougher economic times, automakers are looking to cut costs, just like everyone else. Sticking with an already-ramped up production run of the traditional radio is a lot cheaper than ramping up production of those satellite radio units."

Ryan said the auto issue doesn't mean satellite radio won't take off; but it will lengthen the product launch.

General Motors, which has an ownership stake in XM, will offer radios in two Cadillac models this year. Sirius says its auto partners, Ford, DaimlerChrysler and Mercedes Benz, will offer Sirius radios next year.

Unaligned automakers such as Volkswagen, Honda, Toyota and Nissan eventually are expected to offer units that receive both services, thanks to a receiver interoperability agreement between XM and Sirius, sources said.

### Subscription issues

Both Sirius and XM are pushing automakers to bundle the cost of the subscription in a finance or lease agreement. The latter is important because people tend to lease a car for fewer years than if they purchased it, which would mean a greater chance for turnover in the radios of leased vehicles.

The advantage of bundling the price in the finance agreements, rather than showing them as a separate charge on the bill, is that Sirius and XM don't need to rely on a car salesperson to sell their service, one analyst said.

However, when at lease renewal time, this might be a problem.

"All of a sudden, something that was free — which is how the car sales person will spin it — costs \$10 to \$13 a month. I expect big churn numbers in the OEM market."

Although the rollout is expected at the end of this year, analysts project the steepest growth curve for the service in the second and third years of operation, a typical uptake rate for consumer electronics.

Blum projects a total combined subscriber base for XM and Sirius of 17 million to 18 million people by 2006.



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GUEST COMMENTARY

# Parnau, Tuning for Symmetry

Alan W. Parnau

The author is managing engineer at CBS Corp.'s engineering department.

I enjoy Radio World, especially those articles that deal with practical RF nuts and bolts issues, such as those written by W.C. Alexander.

In April of last year, Alexander wrote an article that dealt with some of the practical aspects of setting up a "T" network. He detailed matching at carrier, and also suggested looking at plus and minus 10 kHz, to try to make the match symmetrical at the sideband

frequencies.

This is an excellent idea; however, the article might leave one with the impression that the place to tune for symmetry is at the input of the network. The place that you really need symmetry is at the modulation point in the transmitter.

## Steps to take

If you tune for symmetry at the network input, unless you are very lucky, you probably will not have it at the modulation point in the transmitter, due to the phase shift encountered by the length of the transmission line

from the network to the transmitter and the phase shift across the output networks of the transmitter.

The best way to accomplish the symmetry is to use your bridge and sweep the load that the output of the modulator sees, and adjust the phase delay across the network until you see a complex conjugate impedance (equal resistance, reactance equal in magnitude, but opposite in sign).

If you do not like digging into your transmitter to get to this point, the manufacturer can tell you what to look for at the point the transmitter feeds the transmission line. They will know

the design phase shift across the output networks, and can tell you how the plot on a Smith Chart should look at the transmitter output, so that the modulator is the happiest.

You may lose a little precision this way, but I generally have found the results completely acceptable.

On a Continental 317, the plot should open either up or down. One way makes the modulator work a little harder to produce the sidebands, so the other way is probably a little better, but I forget which is which at the moment. Both, however, will present a symmetrical load to the modulator.

In a Harris DX-50, the Smith Chart plot should open to the left, according to Hilmer Swanson, for optimum performance.

## Lopsided in New York

We recently went through this exercise at WCBS(AM) here in New York.

When the transmitter facility was built in the early 1960s, there was a delay network built into the diplexer (WCBS at 880 kHz is diplexed with WFAN at 660), and it was adjusted to provide symmetrical sideband impedance to the plates of the old GE BT-50 high-level plate-modulated transmitter.

**The place that you really need symmetry is at the modulation point in the transmitter.**

When a Continental 317 was installed in the mid-'80s, evidently no attention was paid to what it wanted to see. We did a sweep of the modulation point, and found that the impedance at one sideband dove very low, and the other skyrocketed out of sight.

No wonder when you looked at the signal with a spectrum analyzer, it was lopsided. When you plotted the load on a Smith Chart, it was as wrong as it could be for this transmitter.

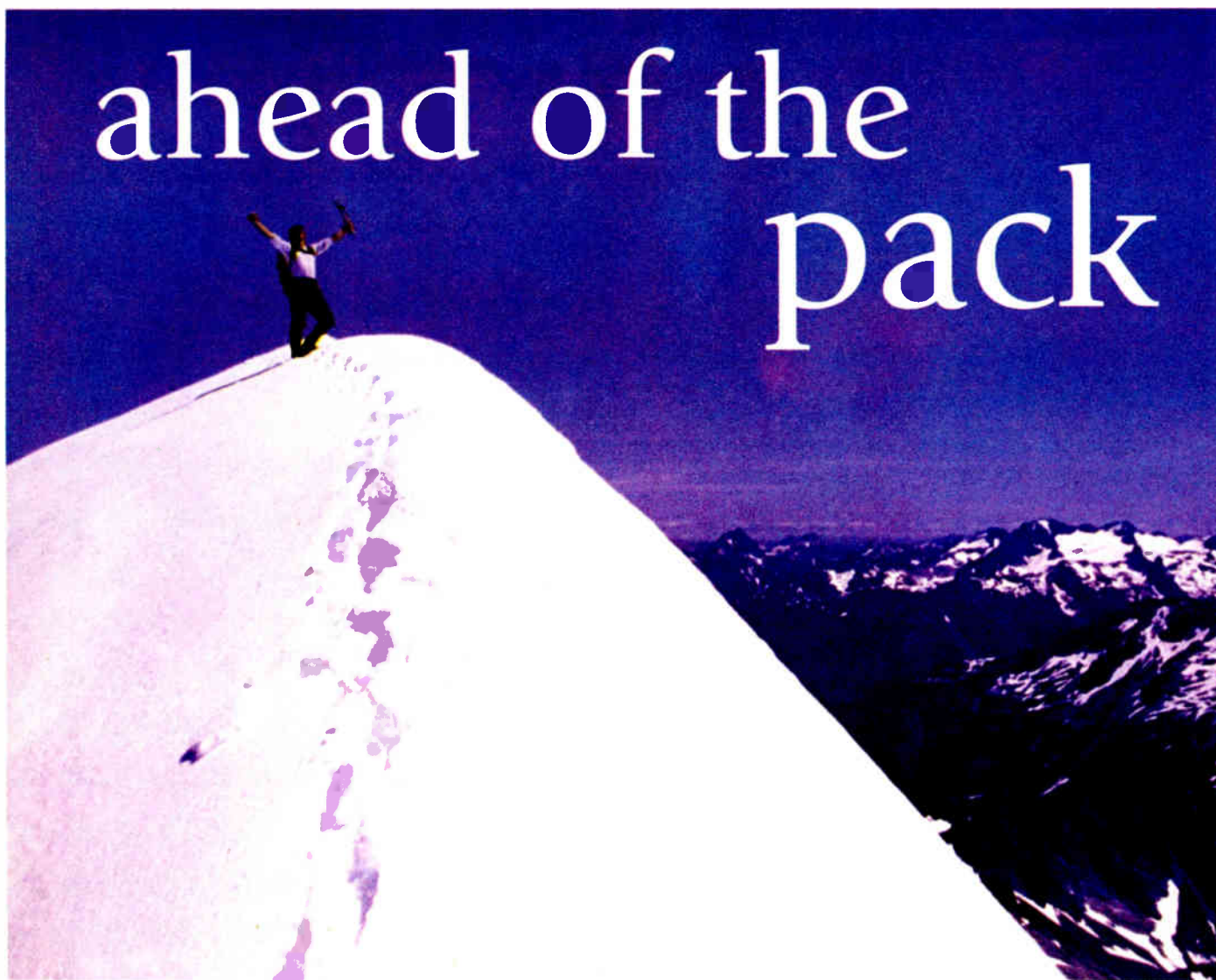
## Broadband

At this point, we decided not only to try to make the sidebands symmetrical, but we wanted to broadband the system while we were at it.

The delay network at the diplexer was adjusted so that the input resistance was equal, and the reactance was equal in magnitude, opposite in sign, and going from more inductive on the low side to more capacitive on the high side.

This allowed us to install a series L-C network at the input of the diplexer that broadbanded the system. The L-C ratio of the series network was chosen such that its reactance changed over the pass band by an

See PARNAU, page 24 ►



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# On The Air

A Monthly Newsletter from Broadcast Software International

Issue 7

## Quote of the Month

"You have a great product that seems to only be limited in use by a person's imagination."

Alan Burton, WKLV-  
Paintsville, KY

### News

## A Letter from BSI's President



This is one of the most exciting times in BSI's history. In the next month, we will be releasing three new innovative products that will give incredible capabilities to broadcasters at all levels.

Our new automation software package, **Simian**, redefines power, reliability and affordability. This new program has the capability of automatically healing itself of errors and even notifying us here at BSI if something isn't

right. We are able to remotely correct or repair an installation before our client is even aware that there's a problem.

**Skimmer** is a wonderful new tool for PDs and air talent to air check themselves and the competition. It will also undoubtedly be popular with media tracking services.

Perhaps the most exciting new offering is **TimeShift**. This ground-breaking application is capable of storing a year's worth of network programming, including all cue tones. West Coast stations can permanently delay an East Coast feed. Stations can effortlessly and instantly create "best of" programs. Never again will anyone need to "dub the network feeds" for sports, business or other features.

In true BSI tradition, despite the products' amazing capabilities, all three of these new offerings are priced affordably like major brand software, not "black box" broadcast products.

The real software can be downloaded to test and try from our web site at [www.bsiusa.com](http://www.bsiusa.com). I encourage you to visit the web site, try the software and ask us any questions you may have. Our open approach and dedication to our customers are the reasons we have thrived when others have fallen by the wayside. We look forward to hearing from you.

Sincerely,

Ron Burley - BSI President

## Calendar

Sept 5, BSI on the Bayou-Riverboat cruise and demo of new products at the NAB. Call for an invitation.

### Birthdays:

Sept 25 1944, Michael Douglas  
Sept 25 1969, Catherine Zeta-Jones

### Tip

## Easy Air Checking

Skimmer, one of our newest products, is a great tool for air checking. It was specifically designed to record, play-back and cut-out air checks. When you set it to record, you can stop/start using the microphone button. Triggers are another way to control Skimmer externally. Using the software is a reliable and affordable way to record your broadcast. Skimmer also makes this a lot easier to do than tape decks or in-house "hack" software.

### User File

## Radio Wanaka - W. Johnson

Wayne Johnson works at Radio Wanaka 92.2 FM in beautiful Lake Wanaka, New Zealand. He says, "Our station has been on air for about 8 months. We have a full and part time staff of 5 very dedicated people. The heart of our system is, of course, WaveStation. I loved the way that you guys let me download a working system. I had it running within the hour."



"Some of the other companies made you send, by email, all of your details before they would let you look at their systems. Bit like the secret service," Wayne says, "I got the feeling that you guys had nothing to hide and that anyone in the market could check it and see how it works without any obligation."

"In the end we got WaveStation and also purchased 1000 titles through the Music Store (Now there's another great thing), loaded it up and went to air. It was pretty much as easy as that. I can honestly say that WaveStation has NEVER let us down."

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# A Short Guide to the Big Easy

**Michael Hedrick**

It won't be time for Mardi Gras when The NAB Radio Show opens on Sept. 5, but New Orleans still has the fervor of an all-the-time party if the adventurous visitor is willing to explore.

Like the city it represents, the famous French Quarter is a paradoxical combination of the earthy and the elegant. It has a variety of landmarks, fine architecture and areas of historic importance to the city. The quarter's 85 blocks are each stamped with their own eccentricities.

## On the Square

Jackson Square is the heart of the French Quarter and home of St. Louis Cathedral. Nearby is the French Market, which runs for several blocks and includes gift shops and produce stalls. Further on is Gallier House, an example of a French Quarter townhouse with 19th century furnishings. Close to that, the corner of St. Ann and Royal is celebrated for the much-photographed riot of iron-work on its balconies.

Not much farther is Louis Armstrong Park, named for the city's most illustrious jazzman. Built in the 1970s and inspired by Copenhagen's Tivoli Gardens, the park is laced with lagoons and studded with bridges and walkways.

From there the exploring tourist will find the legendary Bourbon Street, the most famous and popular attraction in

New Orleans. Named after the ruling French dynasty when the street was built, it is designed to suit all the tastes visitors can bring. Sightseers will find attractions ranging from five-star hotels to Voodoo supply shops, the Historic Voodoo Museum, and a variety of other venues that contribute to a nonstop party atmosphere.

Close to Bourbon Street lies Arnaud's Restaurant, which styles itself "Classic Creole in Classic New Orleans." Arnaud's represents the culinary old guard in serving meals that benchmark the Creole classics, with new Cajun dishes constantly gracing the menu, backed by a vast wine cellar. The gourmet will also find Antoine's, the oldest, and probably the most famous, restaurant in New Orleans nearby. Other high-quality restaurants include Brennan's and K-Paul's.

A musical institution in the Quarter is Preservation Hall, where sightseers can find traditional New Orleans jazz. Next door is Pat O'Brien's, a bar for both locals and tourists.

For a long-term look at the Quarter, visit the Historic New Orleans Collection, a trove of New Orleans memorabilia and a center for scholarly research on the city's history. It houses an extensive inventory of photographs, rare books and manuscripts.

A hop and a skip from the Convention Center is Riverwalk Marketplace, the

home of 120 stores, restaurants and one-of-a-kind pushcarts filled with the unique gifts, tastes and styles of the Big Easy.

Travel a few minutes from downtown New Orleans to find Rivertown in Kenner on the banks of Old Man River.

with creatures whose native habitats span the globe.

The animal list exceeds 1,500 specimens, from amphibians to zebras, and educational presentations include the chance to interact with animals on a Discovery Walk; narrated feedings; and shows starring sea lions, elephants and a collection of local creatures such as nutria and alligators.



Jazz Fest in New Orleans

This cultural and family center offers a variety of attractions, including eight museums, a fine arts gallery, fine dining and shopping.

Among its attractions, the 16-block historic district hosts the Mardi Gras Museum, which covers the history of the famous celebration, and Space Station Kenner, a life-size mockup of the International Space Station. There is also a riverboat dock and a picturesque view of the Mississippi at LaSalle's Landing on the edge of Rivertown.

## Animal menagerie

More than a million gallons of water and 15,000 animals make for an expansive viewing experience. Not far from the convention center is the Aquarium of the Americas in Woldenberg Riverfront Park, which examines the habitats of North and South America: the Caribbean, the Amazon, the Mississippi River and the Gulf of Mexico.

The aquatic menagerie hosts thousands of fish, reptiles and birds, including many creatures native to Louisiana waters like rare paddlefish, alligators and endangered Gulf sea turtles.

Visitors to the Audubon Zoological Gardens can see an Asian Domain, the African Savanna, the Australian Outback and the Louisiana Swamp without the need to visit half the world's airports first. Exotic landscapes and cultural details enhance up-close encounters

After taking a walk on the wild side, stroll through something more peaceful. Philanthropist John McDonogh bestowed a 100-acre tract of land to the city for a park over 100 years ago. Today City Park is the fifth-largest urban park in the nation, encompassing 1,500 acres. Its pleasures include picturesque statues and fountains, sports and recreational facilities, and historic buildings. It is also the home of the New Orleans Museum of Art and the largest collection of mature live oaks in the world.

Afterwards, visit the historic plantations in and around New Orleans, which are a major attraction during visits to the South. Each plantation has its own story of its history in Louisiana. Plantation tours provide visitors with a view of the area and history of each tour.

For those craving historic music, New Orleans offers the Jazzland Theme Park, a 140-acre amusement park showcasing the unique musical culture of Louisiana. The park offers 31 amusement rides, shows, food and a variety of live music.

Finally, for those who miss, or missed, the NAB2001 convention in Las Vegas, Harrah's New Orleans Casino provides some relief. It has more than 100,000 square feet of gaming space on the first level and 2,900 slots and 117 table games. It is located near the Aquarium of the Americas and the convention center, with more than 200 restaurants within walking distance. ●

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## PRODUCT EVALUATION

# New Feel for Shortwave Receivers

*Latest Crop of Receivers Offers Variety of Features With Top Audio Quality for World-Band Listening*

**James Careless**

Despite all the talk about satellite and Internet radio, and despite the BBC's recent pullback of shortwave services to North America, a number of international broadcasters have been investing in updating and improving their shortwave transmission systems.

And while many people may not have noticed, manufacturers of shortwave receivers have been similarly busy.

Earlier this year, to get a sense of what sorts of receivers are available, I requested samples from Grundig, Sangean and Sun-Mate. For good measure, and to serve as a basis for comparison, I hauled out my trusty Panasonic RF-2200.

The RF-2200 is a venerable 1970s-era multiband receiver that, for many, was one of the best analog transistor radios ever made.

## Different sets

Grundig sent three very different sets to test.

The first was the Grundig Satellit 800 Millennium. With a weight of 15 pounds, measurements of 20 x 9 x 8 inches and unmatched audio quality, the Millennium is the top-of-the-line offering from

Grundig. It has all the bells and whistles: continuous coverage, digital circuitry, direct keypad input, single sideband (SSB) for amateur radio and CW (code) reception, three adjustable bandwidth filters, digital readout and programmable memories.



Clockwise from upper left are the Grundig Classic 960, Grundig Satellit 800 Millennium, Sun-Mate Info-Mate, Grundig Mini World 100 PE, Sangean ATS-505 and Panasonic RF2200.

Grundig.

It has all the bells and whistles: continuous coverage, digital circuitry, direct

keypad input, single sideband (SSB) for amateur radio and CW (code) reception, three adjustable bandwidth filters, digital readout and programmable memories.

At the other end of the scale was the Grundig Mini World 100 PE, the smallest of the bunch. In fact, the 100 PE often is called the "World's Smallest Shortwave Receiver." At 2.7 x 4 x 0.7 inches and a weight of just 4.4 ounces, the label fits.

This is an analog, dial-driven set that can use either a built-in speaker or headphones. It features six shortwave bands, plus AM and FM; and there is no SSB or adjustable filters.

In between was the Grundig Classic 960. This is a 50th anniversary version of the classic Grundig AM/FM/SW radio.

In a word, it is beautiful: a solid wood-cased radio complete with fabric speaker cloth and brass emblems. In fact, the Classic 960t looks like it is fresh from the 1950s. It sounds good, too.

From Sangean, I received the ATS-505 portable. In terms of capabilities, this unit has virtually the same features as the Grundig Millennium, including digital circuitry, direct keypad entry, SSB and memory presets. Yet it is only about the size of a paperback book.

Granted, the audio is not quite as good as the giant-sized Grundig — or the Grundig Classic 960 — but it is still very good. As well, you can always use the supplied ear-bud headphones.

The Sun-Mate Info-Mate radio is not one that one would expect in this kind of review, because its main feature is that the radio can be powered using a built-in hand-cranked generator, built-in solar panels, a car lighter adaptor, AC or included rechargeable Ni-Cad batteries.

However, since the 11-band Info-Mate uses Hitachi technology and tunes a number of shortwave bands, I decided to include it. It is about the size of the ATS-505.

Finally, there is old Panasonic RF2200: a bit long in the tooth right now, but still going strong after all these years.

All the radios were compared against each other, on the same frequencies and at the same time. For reception, I either

used the built-in whip antenna on the set or the 6-meter rollout wire antenna supplied by Grundig.

Without a doubt, the Grundig Millennium won hands down in all categories except portability and price. It just sounds better, is relatively easy to use — as much as any world-band radio is — and has good sensitivity to signals.

In particular, the bandwidth filters on the Millennium, which allow users to block out adjacent stations by narrowing the amount of spectrum being received, are a blessing. It was easily the best all-around listening set I worked with.

Close behind was the Sangean ATS-505. It just did not sound as good as the Millennium, due to its smaller speaker. However, it is worth remembering that the ATS-505 costs a good bit less.

## Performance

When it came to performance, the ATS-505 and the Millennium were head-to-head, based on my subjective Signal-Interference-Noise-Propagation-Overall (SINPO) ratings.

For instance, the Millennium won out receiving Radio Sweden International on 18960 kHz at 12:50 UTC. However, the ATS-505 did better with the BBC on 9515 kHz 25 minutes earlier, simply because it somehow avoided an annoying hum that the Grundig picked up.

My verdict: for versatile performance on a budget, the ATS-505 is the best choice.

The Number Three slot was shared by the venerable Panasonic RF2200, the Mini World 100 PE and — surprise — the Info-Mate. Depending on the station, each set showed better performance than the other two.

The morale is that if portability is what is most important, then buy the Mini World 100 PE. If you don't want to worry about a power source, then buy the solar-powered Info-Mate.

Which brings me to the Grundig Classic 960. It has a great look and great sound; it even has input jacks for CDs or computer audio.

But as for shortwave reception, the two world bands on the Classic 960, although continuous, are too crowded; just like a 50-year-old radio would be.

This is a receiver for those who love the look of a classic radio, and whose shortwave listening tends towards BBC and other strong, easily received stations. This said, the Grundig Classic 960 still a work of art, as far as I am concerned. 🌐



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Grundig Satellit 800 Millennium  
(\$699.95)

Grundig Mini World 100 PE (\$39.95)

Sun-Mate Info-Mate  
[www.sunmate.com](http://www.sunmate.com)

Sangean ATS-505 (\$179)  
[www.sangean.com](http://www.sangean.com)

Panasonic RF2200 (Discontinued)  
[www.panasonic.com](http://www.panasonic.com)

# AES Show Returns to NY City

Digital definitely will be in for the 111th Audio Engineering Society convention in New York City, Sept. 21-24, at the Jacob Javits convention center.

No more proof is needed than to note that the keynote speaker is Leonardo Chiariglione, director of the Multimedia Division of CSELT, a research center for Telecom Italia Lab.

## MPEG & SDMI

Chiariglione was instrumental in the development of the MPEG specs and recently has been involved in developing the Secure Digital Music Initiative.

Heading up the Richard C. Heyser Memorial Lecture series will be Dr. Manfred Schroeder, a noted researcher and inventor in the field of speech acoustics and signal processing.

The society points out that more than half of the papers to be delivered will touch in one way or another on digital audio, including signal processing, perceptual coding, synthesis, Internet audio and watermarking.

Workshops will reflect this. They include "The Changing Role of the Mastering Engineer," "Networking for Local- and Wide-Area Production," "Audio for Information Appliances," "Digital Signal Processing — the Good, the Bad and the Ugly," "Digital Audio Workstations," "Methods for Evaluating Surround Sound" and "Perceptual Evaluation for High-Resolution Audio."

## Analog too

But digiphobes should not fear; there will be plenty of traditional analog audio discussions (e.g., "Automotive Audio," "Microphones: What Is Vintage?"), workshops and a return of the popular "When Vinyl Ruled" exhibit of retro equipment.

On the new product front, look for several new high-quality microphones along with numerous closefield monitors (many powered) that are designed for small production studios. Also expect upgrades to a some digital audio workstations that are popular for radio production use.

For more information visit [www.aes.org/events/111/](http://www.aes.org/events/111/).

— Brett Moss

## MARKET PLACE

### Armstrong Digital Module

Armstrong has added an optional AES/EBU input module to its CD-Quality LCD exciter line.

The company says its modular approach allows a quick field retrofit of the exciter, giving stations a cost-effective way to evolve from analog to the digital arena.

The user can start with an analog LCD exciter, which includes multiplex, mono and SCA inputs. When the station wishes to upgrade to digital, its can purchase the AES/EBU input module to complete the digital air chain.

The retrofit takes about 30 minutes. LCD excitors can be ordered "digital-ready" with the AES/EBU module for immediate digital interface capability.

For more information call Ernie Belanger at Armstrong Transmitter in New York at (315) 673-1269 or e-mail [ernie@armstrongtx.com](mailto:ernie@armstrongtx.com).



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## Studio Sessions

The Studio Sessions section of Radio World is on hiatus in this issue. It returns Sept. 12.



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# Parnau

► Continued from page 18

equal, but opposite amount of the reactance at the delay network input, basically canceling out the reactance over the pass band.

Tom King's Kintronic Labs built the series broadbanding network for us. We were lucky; the phase delay through the transmission line back to the transmitter and across the transmitter output networks was almost perfect, so the modulator saw a symmetrical load.

Then the station decided to install a Harris DX-50 transmitter, and make the Continental an auxiliary. Because the delay across the two transmitter

output networks is different, the load at the modulation point was right for the Continental, but all wrong for the Harris.

Tom King to the rescue again. We solved this problem by installing a phase delay network, built by Kintronic, just above the Harris transmitter, and adjusting it so that the new transmitter also saw the load it wanted to at the side bands.

*Cris Alexander replies:*

*Mr. Parnau is correct that in a tube-type transmitter, the load should be adjusted for best symmetry at the modulation point.*

*In a tube-type transmitter, this point may be fairly accessible with a bridge or vector impedance meter. Adjusting for symmetry at that point will com-*

*pensate for the transformations in the transmitter's low-pass filter and output network and produce the very best on-air sound.*

*However, in today's solid-state designs, it is difficult if not impossible to achieve this end. I agree that the best course in the case of a solid-state transmitter is to obtain optimum load data from the manufacturer, if such is available.*

*If it is not, try to achieve the best symmetry at the input to the antenna system.*

*Reach Alan Parnau via e-mail at awparna@cbs.com; reach Cris Alexander at cbceng@frii.net.*

*RW welcomes other points of view and invites tips from our readers about RF nuts and bolts issues.*

## Legends and More Legends

Personalities will dominate the program at this month's NAB Radio Show in New Orleans.

In addition to the popular group-head panel and the first Engineering Legends panel (RW, Aug. 15) will be a session featuring Chuck Blore, Bobby Rich and Gary Stevens on Friday, Sept. 7.

Chuck Blore

They will discuss their early careers and how they launched formats that remain popular today. The moderator is Michael O'Shea, chairman and CEO of New Northwest Broadcasters.

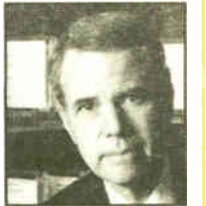
Stevens spent his early career as a radio personality, much of it at WMCA in New York, where he helped develop the Top 40 format. He is managing director of Gary Stevens & Co., which specializes in broadcast mergers and acquisitions. He has experience in investment banking and was president of



Bobby Rich

the broadcast division of Doubleday & Company Inc.

Blore's career includes stints as a programmer and creative services consultant for broadcasters. As program manager



Gary Stevens

of KFWB in Los Angeles, he launched the Color Radio Top 40 format, which gave birth to a 24-hour-a-day broadcast in 1958.

Rich developed the hot AC format while at KFMB San Diego and is programming for mainstream/soft AC station KMZT in Tucson. He has won numerous programming and air personality awards.

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### Ten Years Ago

### You Read It Here

One of six proposed in-band DAB systems has been introduced by Synetcom Digital of Hermosa Beach, Calif. Synetcom was formed by two engineers, Etienne Resweber and Brien Laufer, who previously had been affiliated with the satellite/aerospace engineering field.

Called Digital FM\*S, the DAB system is said to provide near-CD quality. Unlike USA Digital's Project Acorn, which would insert a DAB signal "beneath" the FM signal, Synetcom proposes to use each FM station's subcarrier region to transmit the DAB signal "alongside" the analog signal.

*"Understanding Synetcom's DAB"*  
by Steve Crowley  
duTreil, Lundin & Rackley  
Aug. 21, 1991





Radio World, September 1, 2001

# Be the Windshield, Not the Bug

**John Bisset**

Sometimes you're the windshield, sometimes you're the bug. Good planning can make the difference.

Engineers who have experience with Austin Ring Lighting Transformers are scarce. However, the picture in the July 4 *Workbench* caught the eye of one, P.E. Ralph Winquist of

Lake Worth, Fla.

He writes that the installation of the transformer in the first photo of that column was incorrect. When the transformer is placed with the secondary winding directly above the primary winding, the recipe can be disaster.

In a good rainstorm, water will run off the secondary and onto the primary. This will short out the base insulator, and the station will go off the air.

Instructions from Austin recommend that the secondary winding come off the tower at a 45-degree angle, and encircle in the center, the primary winding coming up at a 45-degree angle. The two windings would then project outward at a 45-degree angle.

When placed in this manner, water from a heavy rain would drop free to the ground, and not short out the base insulator. Proper placement can be achieved using 1-inch pipe nipples and two 45-degree elbows. A kit is available from Austin.

If your towers use Austin Ring Transformers, also inspect the grounding braids, shown here in Figure 1. These

are braided wire straps that should be connected to a solid ground point.

★ ★ ★

It's dark inside the back of many transmitters — a good

pending failure, and should be replaced. The PCB oil issue should raise a red flag. Do not become contaminated with it.

Similar problems such as cuts in high-voltage wire or burned connections need to be sought out during a scheduled maintenance period. Make a list of suspicious parts or components, order the spares and get them replaced.



Fig. 1: Using Austin Ring Transformers? Braided wire straps should be connected to a solid ground point.



Fig. 2: Bring along a strong trouble light to inspect components inside dark equipment cabinets.

reason to use a strong trouble light to inspect components. Figure 2 shows two capacitors. The rear-most capacitor is leaking oil.

Note the black stain around the right terminal. In this case, it's PCB oil. The spillage is symptomatic of a

Where a transmitter has a history of burning HV wire, order a coil of this wire from the transmitter manufacturer. Ignition wire from an auto supply store can get you over the hump in some cases, but nothing beats having the factory

See WORKBENCH, page 26 ▶

## Featured Inovonics Products at the New Orleans Radio Show

### OmegaFM

Omega\_FM is a 100%-digital, software-based 'air-chain engine.' It combines the raw number-crunching power of a fast PC with an advanced instruction set to create a comprehensive audio processor/stereo-gen without the need for DSP and other application-specific chips. This different idea in digital processing gives you a short signal path, with its attendant low latency, and a clean, bright, commanding sound, second to none.

**NEW!**

Processing functions include gain-riding AGC, three independent parametric equalizers, 4 bands of leveling, compression and EQ, and split-band, distortion-canceling peak control.

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# Workbench

► Continued from page 25 replacement on the shelf.

★ ★ ★

With a season of remotes under your belt and fall sporting events right around the corner, you're probably tired of lugging all that remote gear. Take a look at the offerings from Remin's Kart-A-Bag at [www.kart-a-bag.com](http://www.kart-a-bag.com).

This company sells a variety of fold-up luggage carts — you know, the kind you see everyone use at the airport.

The problem with the airport mod-

els is they are not designed for weight in mind. Kart-A-Bag's line handles weights of 100 to 300 pounds, and includes a tri-wheel model to handle really heavy loads.

If you really go all-out for remotes, take a look at the HD-500. This model will carry 600 pounds in either an upright hand truck or flat-bed mode. There's also a shelf option, so the truck can be used to provide shelf workspace, once the gear has been delivered.

A brochure describing the line can be obtained by contacting Kart-A-Bag, which is a division of Remin, Joliet, Ill. Telephone (800) 423-9328. Thanks to Ed Bukont for passing on this handy information.

★ ★ ★



Fig. 3: Plan now for that visiting TV crew or live band in your air studio.

# 25th Anniversary Silver Sweepstakes

Enter to win one of 25 great prizes in Radio World's reader appreciation contest giveaway!

IMAS Publishing is celebrating 25 years of serving you and the radio broadcast industry. To mark this significant milestone, 25 of radio's leading equipment suppliers have teamed up with Radio World to express their appreciation.

Throughout 2001, Radio World will conduct 25 random drawings. Prizes and winners will be announced in every issue of Radio World all year long.



To become eligible to win, you need to complete these three easy steps:

- 1) Register online at our Web site [www.rwonline.com](http://www.rwonline.com)
- 2) Click the Silver Sweepstakes icon on our homepage
- 3) Fill out the electronic entry form — that's it, you're done!

It's your chance to celebrate our Silver Anniversary with these fine Radio World supporters ...



audio-technica



BELAR Electronic Laboratory, Inc.



A few issues back, Radio World ran a review about the Neutrik Minirator and Minilyzer. A tip to keep these portable test instruments in your toolbox followed in the *Workbench* column.

Everyone I've talked to loves these instruments. This includes WRQX/WJZW(FM) CE Dave Sproul in Washington, who writes that he loves his Minirator, and has a Minilyzer budgeted.

However, Dave also sends a word of caution. Because the parameters of the Minirator are set in software, a static "crack" or RF can sometimes change the settings at an inconvenient time. Dave was feeding mic-level tones to the sound system of a church recently, when something clicked the output level of the Minirator from -50 to +4.

He's only grateful that the speakers didn't explode from their mounts! The problem isn't an every day occurrence, but it can happen. Beware.

★ ★ ★

When you're planning to build a new studio, keep in mind that extra microphones or a feed for the TV news camera might come in handy.

If your morning show hosts live bands, you may need a number of in-and-outs, but no place to put them. Fig. 3 shows the chassis of an audio snake, with holes for the XLR connectors already drilled.

You can either buy a pre-wired snake, or cannibalize one as shown here. Include both mic- and line-level feeds for the TV news crew, headphone feeds, mic- and line-level inputs (for the band gear), and plenty of AC outlets. If you can, add a couple of AC outlets up near the ceiling behind the console. Lighting can be plugged in by a film crew without running line cords all over the floor.

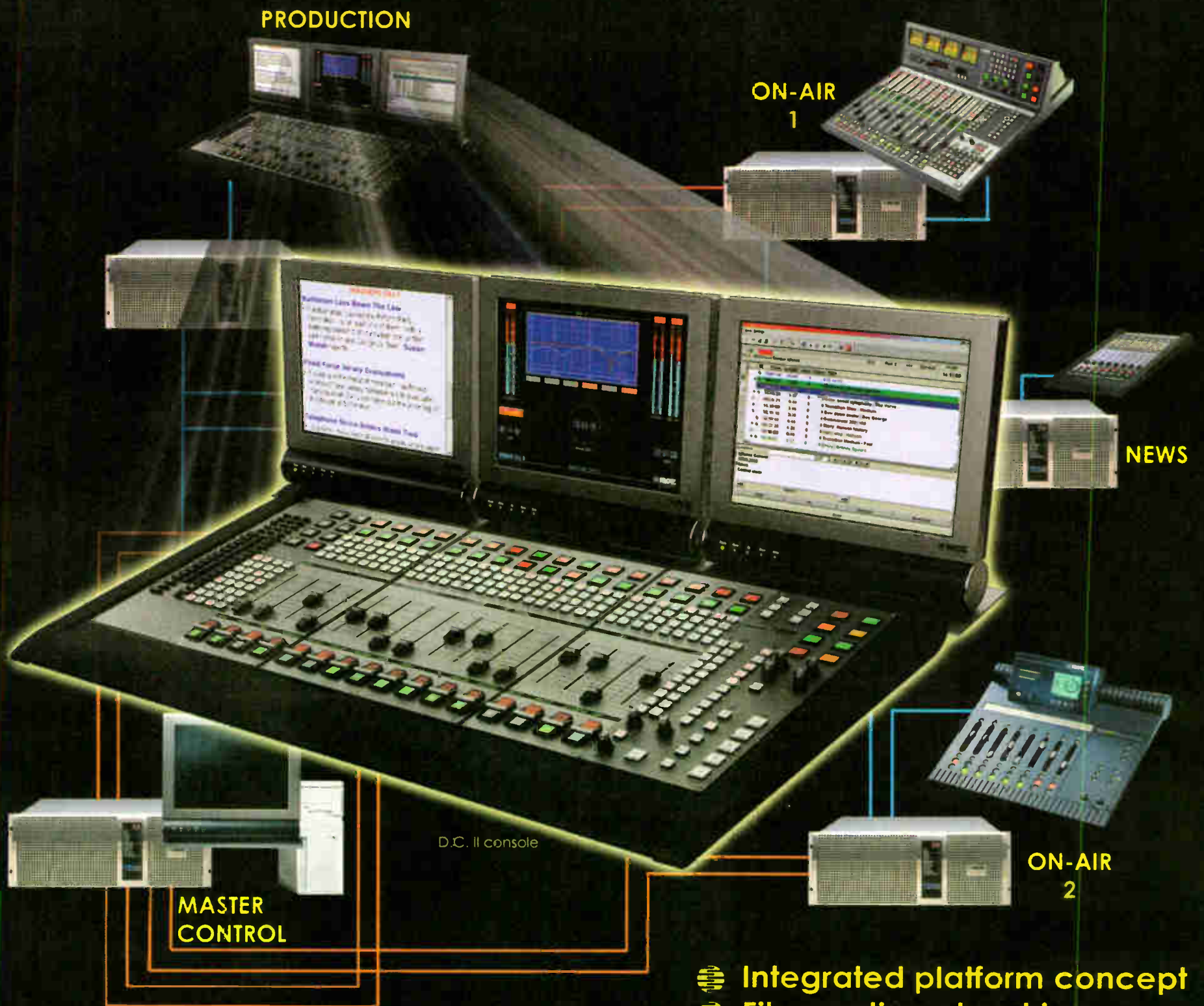
Your talent and PD will appreciate the planning. You'll appreciate it, too, when you're not running around at 4 a.m. trying to gather things together for a 6am party.

Got suggestions of your own? E-mail them to me for SBE recertification credit.

John Bisset has worked as a chief engineer and contract engineer for more than 30 years. He is a district sales manager for Harris Corp. Reach him at (703) 323-8011. Submissions for this column are encouraged, and qualify for SBE recertification credit. Fax your submission to (703) 323-8044, or send e-mail to [jbisset@harris.com](mailto:jbisset@harris.com).

Contest Rules: To enter the drawing, simply register online at [www.rwonline.com/sweeps](http://www.rwonline.com/sweeps). 25 drawings will be held throughout the year. Contest ends December 19, 2001. One prize per winner. All contestants MUST reside in the United States and have a valid mailing address. Winners should receive prizes within 30 days of notification, however, actual delivery time may vary and is not guaranteed by IMAS Publishing. Federal, state and local laws may apply to prizes and are the sole responsibility of the winner.

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DIGITAL

# Digital Phasor for AM Directionals

Mario Hieb, CPBE

AM radio transmission technologies have changed greatly over the years. Transistors have replaced vacuum tubes; Heliac cable has replaced open transmission line.

Relay control ladders have been replaced by microprocessors. Another component of the AM transmission chain that could be replaced with modern technology is the phasor.

## The traditional phasor

Used only by directional AM stations, the traditional phasor is in many ways like certain reptiles, more akin to the prehistoric past than to the present.

A phasor serves two basic functions. The first is to divide transmitter output power between two or more towers. The second is to delay the current to the towers by a small amount. The towers, when fed by these individual currents, create the directional pattern.

The directional array may not adequately protect adjacent channel stations and audio performance is affected.

7. *It is susceptible to failure* due to high power levels and lightning.

8. *It is subject to arcing*. Requires periodic maintenance to keep components free from dust, which can facilitate arcing.

9. *It is prone to drift* due to environmental factors, i.e. wet ground, dry ground.

10. *It must be custom-designed* and custom-built.

11. *It is physically large*.

The Digital Phasor concept is fundamentally simple: Perform the same functions as the traditional phasor, but with modern systems.

The Digital Phasor comprises three elements: a virtual power divider, a digital RF envelope delay and a phasor control unit.

*Virtual Power Divider* — A traditional phasor typically uses inductors to divide

The phase shift, a time delay measured in nanoseconds, is created at a high power level. This seems archaic; it would be better if we could create envelope delay at a lower signal level.

The Digital Phasor creates RF envelope delay by digitally delaying the carrier signal and program audio at a low power level prior to modulation. A DSP or digital/analog hybrid is used to create the delays in the digital domain; the number of delay stages is equal to the number of towers. The PCU controls the amount of delay of each stage.

RF envelope delay is calculated using the following equation:

$$T_{\psi_1} = 1/360f$$

Where:

$T_{\psi_1}$  = one degree of phase in seconds and

$f$  = carrier frequency in cycles per second

The amount of delay necessary is real-

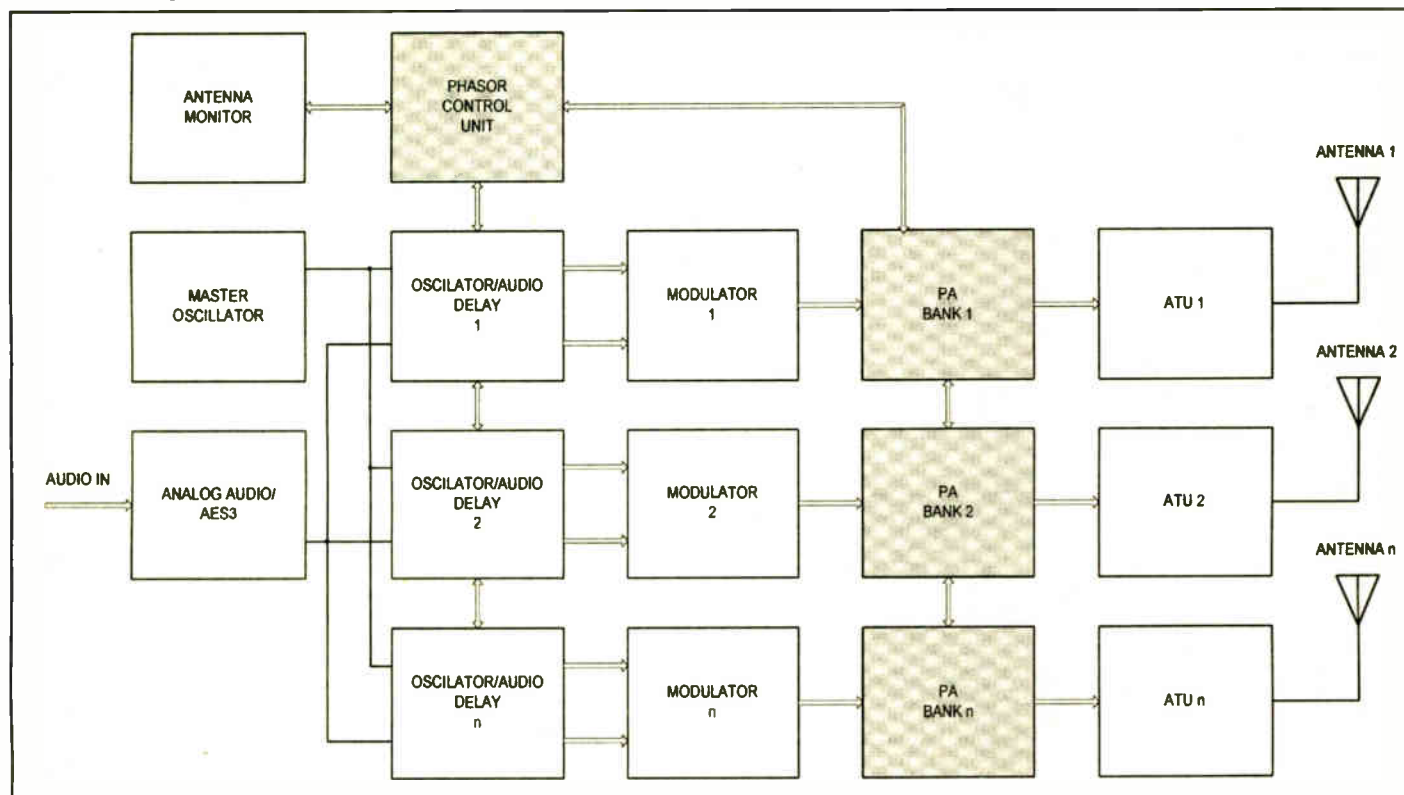


Fig. 1: Virtual Power Divider Section of Digital Phasor

The traditional phasor uses reactive components, capacitors and inductors, to divide the power and create the delay. The traditional phasor has many drawbacks:

1. *It uses large, expensive components*. Components usually are derated up to 50 percent of current and voltage ratings. Expensive vacuum capacitors often are employed.
2. *Higher power levels* require larger and more expensive components.
3. *Additional patterns require more components*. Each pattern requires its own phasor, and often its own ATU network.
4. *Tuning is difficult* due to many variable components. Component interaction adds to the difficulty.
5. *Distortions* may be caused by non-constant bandwidth impedance. The common point impedance varies from carrier frequency to sideband frequencies due to reactive components, causing poor audio performance.
6. *It has problems with pattern bandwidth*. The directional pattern varies from carrier frequency to sideband frequen-

cy quite small. A transmitter operating at 540 kHz requires a phase delay of about 5 nanoseconds per degree of phase.

Instead, banks of solid-state power amplifier modules generate tower current. The number of power amplifier banks equals the number of towers in the array.

Fig. 1 shows one possible configuration. This example uses  $n$  transmitters, where  $n$  is the number of towers in the array. A modulator drives each bank with the output power controlled by a phasor control unit. The absolute output power of each PA bank is measured; current ratios are calculated and controlled by the PCU.

Ultimately, the towers see the same currents and current ratios it would with a traditional phasor.

*Digital RF Envelope Delay* — A traditional phasor uses a network of passive, reactive components to create carrier phase shift, what I call "envelope delay." Variable inductors, through a system of mechanical linkages, allow for manual adjustment of the delay.

ly quite small. A transmitter operating at 540 kHz requires a phase delay of about 5 nanoseconds per degree of phase.

*Phasor Control Unit (PCU)* — One difference between the traditional phasor and the Digital Phasor is that the latter has a "brain." Both the virtual power divider and the RF envelope delay stages are controlled by the PCU; the antenna monitor is linked to the PCU providing feedback of antenna phase and current.

Absolute power samples are taken from each PA bank and fed to the PCU where virtual common point current is calculated.

The PCU adjusts the amount of RF envelope delay and PA power against an internal table of system parameters. This gives the Digital Phasor the ability to keep DA power ratios and phase parameters within tight specifications. When the array drifts out of tolerance, the PCU adjusts envelope delay and power output to bring it back in.

Each PA bank will have a maximum power output equal to the highest power level required by the related tower. PA



banks could be located in a cabinet or building at the base of each tower, eliminating the high-power transmission line. Individual PA banks, envelope delays and the PCU, could communicate with each other via wired or wireless data networks.

Standard user interfaces such as monitor, keyboard and modem would be considered part of the PCU. The Digital Phasor could be a "black box" that modifies an existing AM transmitter or it could be part of a new transmitter topology.

## Benefits

Theoretical advantages of the Digital Phasor over traditional phasors include:

1. Better impedance bandwidth
2. Better pattern bandwidth
3. Better audio quality
4. Mass producible
5. Components operate at low power levels
6. More stable
7. Self-adjusting with feedback link to antenna monitor
8. Multiple patterns possible with marginal increase in cost
9. Active power division. Adjustments can be made automatically
10. Requires less space
11. Fewer variable components. Easier to tune
12. Fewer mechanical parts
13. Less prone to arcing
14. High-power RF transmission line is optional. PA banks could be located at each tower
15. Diagnostics can be built into the PCU
16. System can be upgraded periodically with software revisions

Several patents, foreign and domestic, are pending for the Digital Phasor system.

The most common question I've been asked regarding the Digital Phasor is how tower mutual coupling would affect the performance of the device.

Mutual tower coupling is an interesting phenomenon whereby current from an adjacent tower is induced and then absorbed or reradiated. In some array designs, a tower may absorb more power than it radiates; such a tower is described as having negative impedance.

The bottom line: we don't know exactly what the driving point impedance of a tower will be until everything is turned on and tuned up.

If this all sounds complicated and spooky, it is. The question we need to be asking is, "Will the tower in question be positive or negative impedance?" This question exists whether the phasor is reactive or digital.

See PHASOR, page 30 ►

# LOOKS LIKE WE'VE UPSET THE COMPETITION. AGAIN.

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THE ALL NEW  
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And really, this should come as no surprise.

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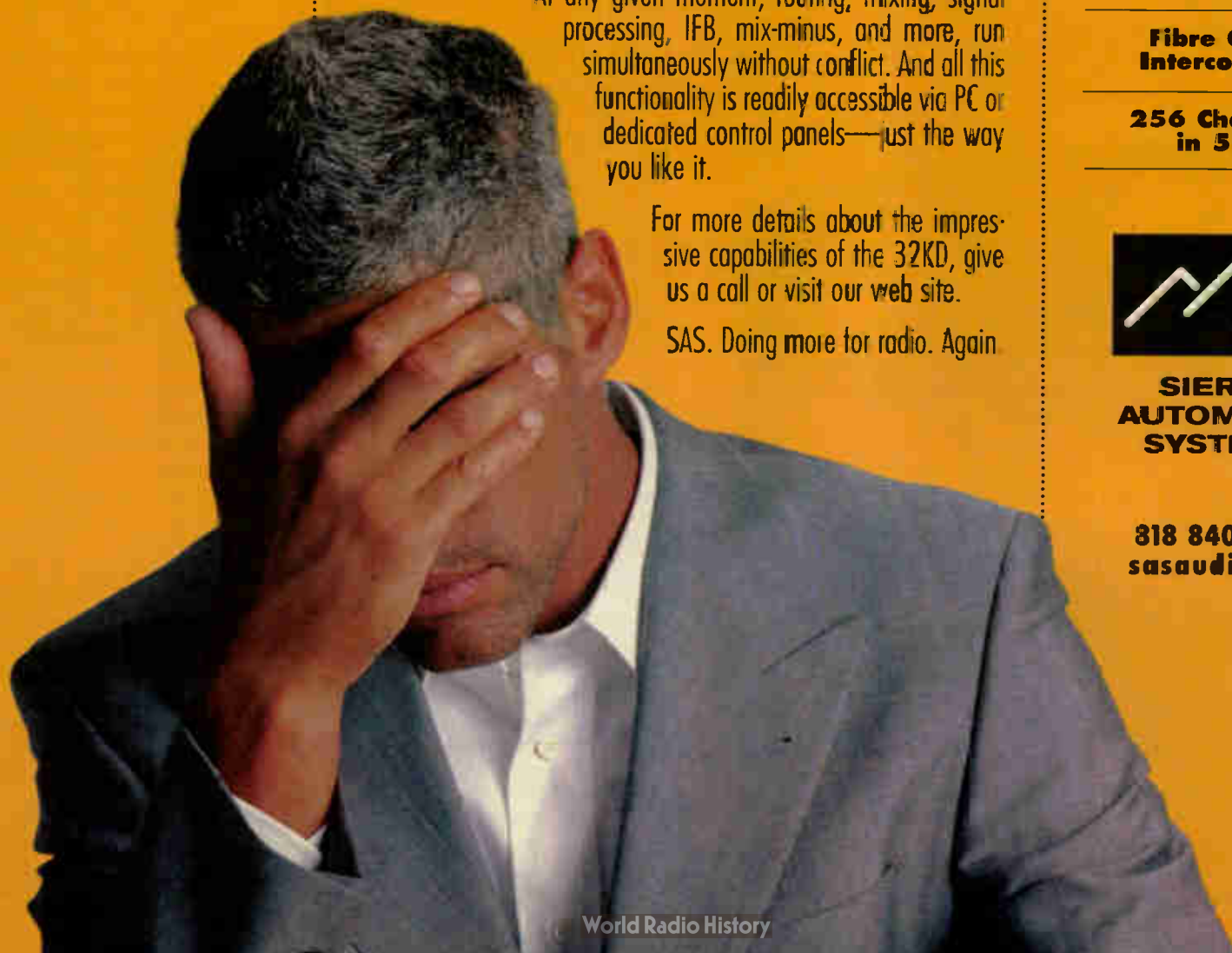
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## GUEST COMMENTARY

## IAAIS Works to Get the Word Out

*Audio Information Services Seek Support, Celebrate Recent Gains Here and Abroad*

**Ben Martin**

"Sound Global Communications" seemed like an appropriate theme for the 2001 International Association of Audio Information Services (IAAIS) Conference in Salt Lake City.

How will IBOC affect audio information services? Where, if anywhere, is the IAAIS place at the digital table? How can we harness the Internet to serve more than 1 million blind and print-impaired citizens in the United States?

Where is there a landfill big enough for all of those FM SCA receivers once the broadcast world is in a totally digital environment?

You guessed it. No, we didn't answer any of these questions. At least, though, we know what the questions are!

Yes, we're doing strategic planning and charting our course for the next five years. We're laying the groundwork for the future while realizing that the future is now. We're planning a trip, knowing all too well that the road map keeps changing on us.

#### Spread the message

We were able to reach at least one conclusion: We need to be better salespeople.

Whether our stations are digital or analog, operating on an FM subcarrier or TV SAP, if people don't know such audio services do, or can, exist, then "sound communications" doesn't mean too much.

Our challenge is twofold: not all cities and towns are served by an audio information service; there are many groups and organizations that would accept the challenge of starting one, but they don't know about the technology.

In areas where services do exist, most individuals who need them don't know anything about them. This is, perhaps, the

biggest obstacle facing our members: without knowledge of our service, we have no listeners. We also have no volunteers and no donors.

So, the IAAIS finally realized that it shouldn't be too difficult to give away a good thing. At our conference, we took a long, hard look at whom we are and what we have to offer individuals who have difficulty reading the printing word. So, what are we giving away?

The stories of two very different men tell the tale.

In the 1930s, a magazine salesman traveled through the tiny Bedford County, Va., hamlet of Moneta, my hometown, selling subscriptions to the Southern Planter Magazine.

"All of the farmers bought it," my father said in a testament to the man's ability to clinch a deal, "even 'Joe' bought a subscription." This was the sale that convinced my father that this stranger had a real knack for his profession: Joe never learned to read or write.

"I suppose he could look at the pictures and have someone read it to him, I guess," my father reasoned.

During that time, Joe was only one of many farmers in that area who were illiterate. For most of his adult life, my great-grandfather was, too, but in his late forties, his luck would change.

After completing two six-week courses at a teacher's college in 1921, my grandmother earned her license to teach first grade. She came back home to teach in a one-room schoolhouse, and, in her spare time, she taught her father how to read and write.

Can't you just imagine how my great-grandfather's world changed after he learned to do what you and I take for granted every day? For the first time in his life,

he was able to read his own mail (even the junk mail!), write a check, scan a newspaper, read a stop sign. Can you imagine how Joe felt just to be able to look at pictures in his magazine?

Now, consider John's problem. John, a well-educated man and a lover of books, is retired and is in his early seventies. His sight has deteriorated gradually and, even with a magnification device, he can no longer read standard newsprint. His daughter, desperate for help, calls me to ask for assistance.

"He lives in a different part of the state," she said, "so there's only so much that I can do for him. The trouble is that he has a tremendous phone bill every month because he calls me every week, long distance, to have me read his Time and Newsweek magazines to him over the telephone."

A thin line separates Joe and John. Suppose you are an avid reader and you lose just enough of your eyesight that reading becomes difficult? There go the pictures, too. You're lost.

But it doesn't have to be that way.

Audio information services can help to give individuals with print impairments a better quality of life.

That's the message that the IAAIS is taking across the United States and, now, the world.

As an organization, we can help an interested group to begin a fledgling service. We can show a small service how to grow, and we can help an established enterprise to sharpen its skills. Established services have the benefit of sharing their knowledge and expertise with their colleagues every day on our listserv, and, as a result, learn how to do an even better job.

Yes, you can help, too! If you're a station manager, consider the community benefits of having a concerned organization use an available subcarrier to start a new service. If you're a programmer, help us spread the word through PSAs (we'll be producing one ourselves later this year).

Finally, and most important, if there is already a service operating on your sideband, then give them all the support you can. Can you think of a better way to show the community that you're a good corporate citizen?

As a result of participation in the last



Ben Martin

World Blind Union Conference in Sydney, Australia, we have, within the past year, established meaningful contacts in several countries as far-flung as Croatia, India and South Africa, among others.

#### New members

Stateside, we have added members in Texas, New York and Michigan during 2000. Also, IAAIS has discovered a great treasure this past year: its friends in public radio.

Without the excellent help of Kevin Klose and the NPR Government Affairs team, IAAIS would not have been so well-positioned for the future, a future that includes ongoing, working relationships with NPR, NAB and others in the radio industry.

IAAIS members know all too well that more Johns are in the world than there are FM SCA radios, telephone dial-in services and TV SAPs to serve them. We're looking for ways, though, not to get swept away by the whirlwind of technological change.

Dave Andrews, chief technology officer at Minnesota State Services for the Blind, has been participating on the National Radio Systems Committee to ensure that our subcarriers receive proper IBOC testing.

At the last Public Radio Conference in Seattle, Dave Noble, IAAIS immediate past president, received the PRRO award for his work representing the IAAIS position on LPFM stations to Congress and the FCC.

We're working, but we're working smart.

One more thing on which the IAAIS Conference 2000 attendees agreed: there is a lot more work to do.

*The author is president of the IAAIS and director of the Virginia Tech Radio Reading Service. For information send e-mail to benm@vt.edu.*

*RW welcomes other points of view.*

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## Phasor

► Continued from page 28

If the tower is positive impedance, net power is radiated and all is well. In a negative tower, more net power is absorbed and either feeds a dummy load or is fed back into the phasor. Neither of these scenarios is ideal. Burning up absorbed power in a dummy load lowers both array and system efficiency.

Feeding absorbed power back to the phasor isn't that great of an idea either. The returning power is delayed by an amount determined by the distance from the phasor to the array.

This "dirty power" is nearly certain to be out-of-phase in reference to the phasor current. When added back at the phasor summing-node, it will reduce phasor power by an amount determined by the phase and amplitude of the signal.

Another effect will be a "comb filter" effect, where time-delay and recursion cause signal notch filtering.

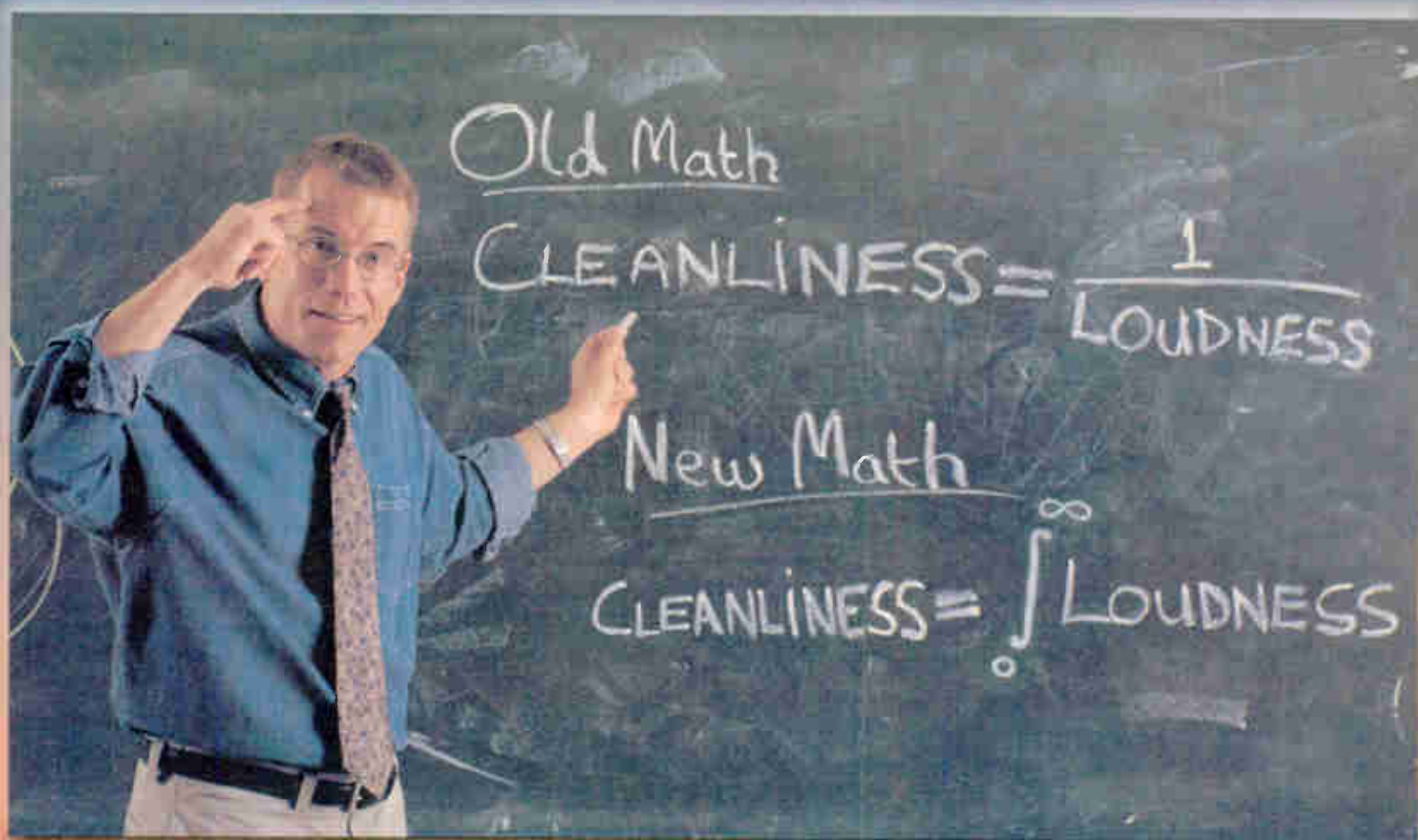
A better approach, assuming that the transmitters are solid-state, would be to convert the RF current at the negative tower to direct current and feed it into the transmitter DC power supply. Array efficiency would still suffer, but system efficiency would be improved.

There also exist arrays that are "unstable" meaning that one or more towers drift from positive to negative (or vice-versa) impedance over time. A Digital Phasor system could theoretically "catch" the instability just as it happens and automatically correct the system by slightly adjusting antenna current and phase.

*Mario Hieb is the radio frequency coordinator for the 2002 Olympic Winter Games.*

*This article is based on a paper originally presented at the NAB2001 convention.*

# Process This!



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**T**he original Aphex Model 2020 audio processor set the standard for audio quality, loudness and extended coverage. Not content to sit on its laurels Aphex continued to research ways to improve performance even further. The result is the 2020MkII.

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## Orban 8400

Loaded with Motorola's latest DSP chips, the Optimod 8400 comes equipped with more than five times the raw processing power of its predecessor. This vastly augmented digital horsepower enabled Orban engineers to implement sophisticated new processing algorithms (seven years in the making) that extend virtually all performance parameters. The 8400 retains many proven Optimod-FM 8200 features, such as 5 and 2-band processing structures, but with supercharged processing power.

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OPTIMOD 8400

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## Marantz PMD321

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## Radix DA1600

The Radix DA1600 is a heavy-duty distribution amp with 16 channels of 16 mono balanced outputs. Front panel level control and selectable pads accommodate a wide range of input levels. Features: removable, plug-in connectors that allow wiring changes to be made quickly and effortlessly with the distribution amp still in the rack; THD: 0.1% max @ +20 dBm out, SNR 90 dB.

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AT4033SM

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MD46

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World Radio History



NEWS MAKER

## Hilary Rosen Defends Online Costs

*RIAA Chief, the Music Industry's Toughest Proponent, Speaks Next Week at NAB Event*

As president and CEO of the Recording Industry Association of America, Hilary Rosen has appeared on a number of influential power lists.



Hilary Rosen

In May, USA Today called her the most visible spokesperson for the \$15 billion music industry at a time when a transition to digital puts it at a major crossroads.

As the NAB's Xstream Conference key speaker this month in New Orleans, See ROSEN, page 38 ▶

## Radio News Is a Sturdy Survivor

Scott Fybus

It is feeling the effects of ownership consolidation, outsourcing and the online world. But after 80 years, radio news in America is not only alive, it is profitable.

While local news has all but disappeared from most FM music stations, the 1,159 news and talk stations that specialize in the format say business today is as good as can be expected, considering the overall economic climate.

### Downturn

"Last year was a much better sales year than this year," said Jim Farley, news director at Bonneville station WTOP(AM-FM) in Washington. "It's been a struggle to make budget, but we have."

That emphasis on budget is something news directors from years past might not recognize. At KNX(AM) in Los Angeles, News Director Bob Sims said the atmosphere has changed in his 33 years there.

When KNX went all-news in 1968, it was a CBS owned-and-operated station, heir to the news tradition of Murrow and Cronkite.

"There was a much greater emphasis on winning awards and less on the profit margins" under CBS, Sims said.

That CBS is gone, submerged in the corporate hierarchy of Viacom and flying the Infinity corporate banner.

"The most notable change in moving from CBS to our current situation," Sims said, "is in developing the various stations' potential for profit."

But if you're expecting tales of cutbacks and layoffs, you'll be disappointed.

"I don't believe that the quality of



News Producer Ronnie Bradford works the phones at KNX in Los Angeles.

the work that we've done has changed," said Sims. Instead, the profit-driven Infinity model has pushed KNX and its sister stations around the country to raise their ad rates. In the process, Sims said, KNX found it had been charging far less than the market would bear.

### Mixed mood

"We were pulling in 20-, 25-percent profit margins for years and years," Sims said of the CBS days. "We were really proud of ourselves. We were one of the top stations in the CBS chain."

Today, KNX achieves Infinity's goal of profit margins in the 40-percent range, according to Sims. The station achieves this without cutting staff (the

station employs roughly 60 full-time newspeople) and without diminishing their commitment to cover news events in southern California.

Not every news director shares Sims' confidence in the state of radio news. The news director of another Infinity-owned, CBS Radio News affiliate, who asked to not be named, said the emphasis on profits keeps many Infinity managers from improving their newsrooms.

In the monthly conference call with top CBS Radio executives, this news director said, "These guys are bitching and moaning. They can't spend anything, they feel nothing but the relentless pressure to increase revenues."

Meanwhile, away from the big See NEWSROOM, page 36 ▶

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# Newsroom

► Continued from page 35

staffs and high salaries in the major markets, small-market news directors have a different complaint. They're wondering where they'll find the next generation of radio news anchors and reporters.



Robert Feder

"The trend I'm seeing is very little interest among younger folks," said Mark Howell, news director at Buck Owens Production Co. stations KUZZ(AM-FM) in Bakersfield, Calif., Arbitron market No. 91. "Everyone I'm talking to wants to go into TV — if you can call that journalism."

Beyond the lure of on-camera work, Howell believes would-be radio news staffers simply don't have any opportunity to learn the nuts and bolts of the business.

"There's no place to go to be bad anymore," he said. "There's no place to study the craft."

## Leveling out

The RTNDA and Ball State University conduct an annual survey of radio and TV news departments. The survey bears out Howell's concern that there are fewer opportunities in all markets for radio journalists.

"Consolidation in radio has cut the number of people employed in news," said Bob Papper, professor of telecommunications at Ball State University. Papper serves as the survey's principle researcher and writer.

"That's the bad news. But the good news is that the survivors are making more money, including benefits, which many did not have when they worked for small companies. And radio newspeople today don't have to worry if their check is good. That gives them a sense of security that is new to them."

Papper said that five years ago, an average of 4.5 people were employed in radio newsrooms. Last year, that average had dropped to 2.6 per newsroom. The statistics include full- and part-timers.

Papper found that the median salary for a small-market news director was \$20,000, according to the survey, hardly an attractive draw for newcomers considering their career options. In contrast, news directors in even the smallest TV markets had a median

salary of \$43,500 last year, the study found.

Howell recently filled an open spot on his small staff (three full-timers, two part-timers) after a four-month search that produced "only a handful" of qualified candidates.

"Twenty years ago, I would have had dozens," he said.

## Nurture

To solve that problem, Howell is trying to develop talent early. One of his part-time employees is a local high school student he recruited — the first entry-level newsperson to be hired at KUZZ in more than 20 years.

"I think this is the kind of thing we're going to have to do more often and more systematically, if we're going to fill our staffing needs in the future," Howell said.

Howell's major-market counterparts aren't having that problem yet.

"I often get to pick from among the best people in radio news," Sims said



Shawn Anderson is a WTOP afternoon anchor.

of his job openings at KNX.

That may be true now, counters Howell, but if the demise of the entry-

level news operation continues, "he's going to find that the kind of people

See NEWSROOM, page 40 ►

## GUEST COMMENTARY

# EBC Profits by Local News Online

Jerry Hinrikus

*The Radio-Television News Directors Association cites Jerry Hinrikus as one who has solved the most elusive challenge of the new economy: He makes money on the Web. As general manager and vice president of a six-station group in Salina, Kan., (population 50,000), Hinrikus uses local news as the centerpiece of his group's Web site.*

How do you make money in business? How do you make money in radio? You offer the customers something they want and want often. You make sure it is a good product, easy to get and priced right.

Why would this be any different in making money on your Web site? In retail, I hear the three Ls used a lot: location, location, location! EBC radio and EBCLink.com uses the three Ls also: local, local, local!

## Serious business

EBC has four full-time news reporters and three full-time sports reporters who carry digital cameras to cover local events 24 hours a day, seven days a week. They update this local information as it happens on the radio and Web site.

EBC offers a product that customers want immediately and want often. Our listeners and readers don't have to wait for this information from the newspaper the next day; they can get the story, the picture and the audio clip ... now.

EBCLink features obituary reports, engagements, wedding and anniversary announcements and pictures, lost and found information, local weather, divorce and drunken driving reports, sports schedules, pet adoption pictures, market reports, free classifieds, help wanted information and the most wanted criminals page, etc.

The list goes on and on. If it is local information and our listeners and readers want it, EBC will get it to them

before the newspaper.

EBCLink also offers eight audio streaming channels so users can hear live, local play-by-play of high school football, basketball, volleyball, wrestling, tennis and baseball games.

EBCLink.com will soon add church services, funeral services and weddings to our audio streaming available on the Internet. Since we do local events with no music and sell locally produced commercials, we don't have to worry about ASCAP, BMI and AFTRA issues.

Now that EBCLink has a product our listeners and readers want, we have sales staff to sell the display ads on the Web site just like the newspaper does. We sell display ads instead of banner ads since our retailers can identify with the term "display ads" better.

We sell display ads with the concept of branding the advertiser's name or product in the consumer's mind. Any click-through traffic from their linked display ad is a bonus that the local newspaper can't give.

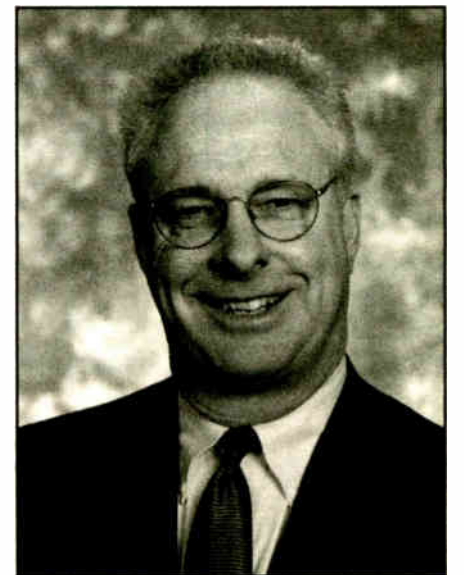
Since we don't deal with a lot of agency business, we don't have to play their CPM games. We do, however, have to get results for the client. That hasn't changed. EBC invested in its Web sales staff the same as its radio sales staff.

We believe in the Radio Advertising Bureau and use them for all radio and Web sales training. Can you imagine having a radio station with no sales reps? Why wouldn't you have sales reps for your Web site?

At EBC, we practice what we preach. We advertise EBCLink.com on our six radio stations: one a news-talker, two country stations, a hot ac, an oldies and one soft ac.

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Jerry Hinrikus

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World Radio History

# Rosen

► Continued from page 35

Rosen faces an industry that she has caused much expense and uncertainty — feelings that no doubt go both ways.

She is at the forefront of efforts to protect the rights of artists and copyright owners online, as downloadable music sites expand at a dervish speed.

She and the RIAA were instrumental in adding language to the 1995 Digital Performance Right in Sound Recordings Act and the 1998 Digital Millennium Copyright Act that created rights fees for artists' and recording companies' music played on the Internet.

A U.S. Copyright Office ruling last year included terrestrial broadcasters that streamed their signals in the group subject to the new performance fees.

The NAB filed suit in federal court to reverse that decision, but was rebuffed when the U.S. District Court of Eastern Pennsylvania dismissed the case in August and upheld the Copyright Office rule that mandates radio pay online fees for streamed music. (See page 2.)

Radio World contributor Craig Johnston recently interviewed Rosen.

**RW:** You'll be keynoting NAB's Xstream conference this month. What message will you impart to Internet streamers?

**Rosen:** I think clearly the music community and broadcasters and Webcasters are at the forefront of an entirely new consumer way to listen to and enjoy music.

I'm going to be there to let people know we're excited about their business opportunity; we want to be supportive.

Broadcasters and record companies have always had good relationships, but as this new business takes off it's important that there be recognition of the investment that the music community makes in the success of these new outlets.

**RW:** There will probably be a number of broadcasters sitting in that audience. They've taken a different view of the Copyright Office's decision on their obligation to pay rights fees to the RIAA members.

**Rosen:** NAB President and CEO Eddie Fritts has been quoted as saying of the Copyright Office ruling, "NAB believes this ruling is directly contrary to federal law and congressional intent as expressed in the Copyright Act."

What's your view on that?

**Rosen:** I was here in 1995 and was part of the creation of the Digital Performance Rights Act. It was clear to me, and I think to everyone at the time, that Congress recognized that it was hard to go backwards — that, despite the fact that the U.S. is one of the only countries in the world that doesn't pay performers and record companies on analog broadcasting, that we could move forward when we go into the digital world and that as new businesses were being created, as new distribution outlets were being created, new plans could be made for more equities.

I have extraordinary respect and affection for Eddie Fritts, but I think he's just wrong on that.

**RW:** You've been quoted as saying, "We look forward to working with broadcasters for a smooth transition into this marketplace." Has this situation become so polarized that it's going to be impossible to have that smooth transition?

**Rosen:** No, I don't think it's so polarized. There have been some court proceedings and things, but there have been some positive discussions — Eddie and I have positive discussions, some of the big radio members of the NAB have been in to talk to us.

I think that the proof is obviously in whether or not consumers like getting music through radio streams online and clearly they do. We all hear from them that they like it, that it's an exciting new opportunity. So there's a mutual incentive to make this work.

**RW:** Some broadcasters are arguing that the imposition of these new fees at this early and unprofitable point in the Internet radio industry's birth could choke off the industry altogether.

**Rosen:** You know, we're talking about such a small amount of money in the grand scheme of things. We're taking about, what, a couple of thousand dollars a station.

And in every case we've said, "If you don't want to pay cash for performances, then pay it as a percentage of revenues, so if you're not making any money, we won't make any money."

We have bent over backwards to make this as non-threatening to the growth of this industry as is possible. I just don't think that's a fair charge.

**RW:** When they finish grumbling, some Internet broadcasters have admitted there's an advantage to the mechanisms

in the DMCA.

**Rosen:** I was actually just going to say that. This compulsory license is the best thing that ever happened to Internet broadcasting. It gives them the opportunity to play whatever they want and to have an automatic and easy license process and a clearinghouse that works, similar to the one that they've used very well over the years with ASCAP, BMI and SESAC.

So I think in the end that broadcasters will think that this is a good thing.

**RW:** The advantage to them is that they can't be locked out?

**Rosen:** Exactly. And they don't have to go through licensing thousands and thousands of recordings separately on a weekly basis.

**RW:** For all the hostility on this issue, your organization, the RIAA, and the NAB, have stood shoulder to shoulder in the defense of free speech. Do you think this is just a case of old friends having a temporary disagreement?

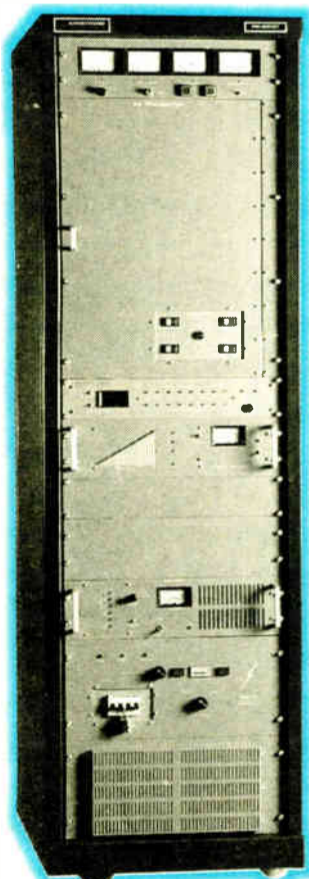
**Rosen:** I think it is and that's why I don't think it's been all that hostile. Clearly we've done a lot of important work together in the name of free speech and we're continuing to do that right now, as the FCC is fining radio stations like Citadel for playing music.

So we stand shoulder to shoulder on a lot of things and it's important that we do so.

**RW:** Is there anything else that you'd like to say to broadcasters?

**Rosen:** (pauses, laughs) I'm looking forward to being in New Orleans and then talking to as many people who are doing these new businesses as possible. ●

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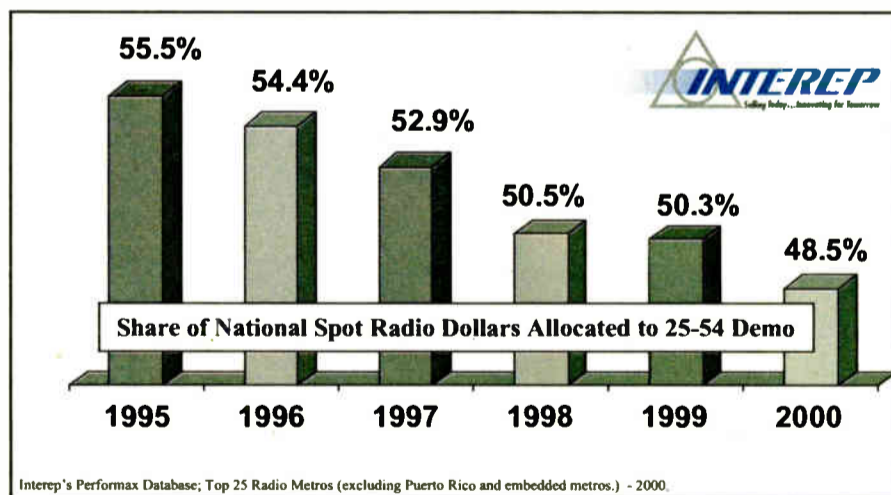
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### The 24 to 54 Demo Slips Again

The decline in radio spending that targets the 25 to 54 demo continues, according to Interep's annual analysis of the share of national spot radio advertising dollars by demo in the top 25 metros.



For the fifth consecutive year, advertisers spent less to target the 25 to 54 demographic in 2000. While this is still the No. 1 demo, its size of the spending pie is shrinking.

Last year, 48.5 percent of all radio national radio spot ad dollars were aimed at those aged 25 to 54, down almost 4 percent from 1999's 50.3 percent.

In contrast, in 1995 the share of dollars allocated to the adult women and men 25 to 54 demo was 55.5 percent. Thus last year's figure represents a decline of almost 13 percent for the demo in five years.

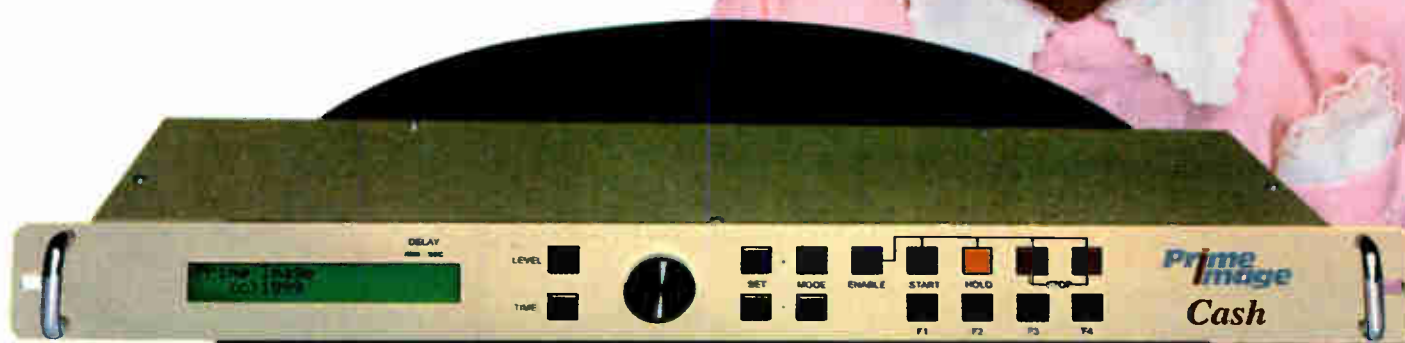
Adults 25 to 54 still rank No. 1, followed by adults 18 to 49, women 25 to 54, adults 25 to 49 and adults 18 to 34.

Demos that gained targeted dollars were the 35-based demos (i.e., 35 to 64, 35-plus, etc.), which showed a full percentage point gain from 1999. Interep speculates that this increase may be due to political advertising, which tends to target older voters, in 2000.

Seven-point-seven percent of total ad dollars were allocated to 35-based demos in 2000.

— Laura Dely

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# Newsroom

► Continued from page 36

he's hiring now are all retired."

At Washington's WTOP, Farley also sees a decline in the availability of talent with small- and medium-market experience.

"It used to be that you couldn't get to WTOP without five or ten years experience in a medium market like Annapolis, Md., or Harrisburg, Pa., but you can't find those people anymore," he said.

One solution he's found is through an internship program that brings college students in for experience in his newsroom.

"After they've done the internship, it's turned a lot of them on to what they can do in radio," he said.

## Quality at a price

Outside contractors are also a concern for today's news directors.

A growing number of stations in larger markets, most but not all music outlets, contract services like Metro Networks and Shadow Traffic to provide their news product under the same barter deals with which they obtain traffic reports.

"I'm not impressed at all with the quality of work these people are doing," said Sims. "It doesn't give me any confidence at all that the people on-air know what they're talking about."

Metro and Shadow are both owned by Infinity. Numerous calls and e-mails to the companies for this story were unreturned.

The Associated Press, which supplies news to 4,438 radio stations (a three-year high), views services like Metro as non-competitors.

"They do not have the infrastructure that AP has, nor do they have the depth and breadth of coverage that AP



Trophy Row in the KNX Broadcast Studio. The RTNDA has recognized KNX with the Golden Mike award for best newscast 27 times in the past 30 years.

has," said Thomas Callahan, general manager of AP Radio.

While AP may far outrank Metro and Shadow in resources, it's not ignoring the competitive pressures that make low-cost services increasingly attractive to radio managers.

Callahan said AP Radio has responded to stations' needs by offering a broader range of information services, including morning-show prep products designed for stations with little or no interest in traditional hard news.

"AP has become extremely flexible in how we go to market and the level of service we offer stations," Callahan said.

Of course, stations have become far more flexible in their use of those services as well.

At Washington's WTOP, Farley uses the AP's All-News Radio, a live, 24-hour news and information format, as

the framework for his Federal News Radio service. The FNR is a 24-hour Webcast designed to attract workers in government offices (RW, July 18).

In addition to that specialty service, WTOP streams its main signal to reach listeners who can't hear the station over the air.



Dave Zorn is the KNX(AM) afternoon drive-time anchor.

"Despite having three signals in the market they all have trouble penetrating downtown office buildings," Farley said. (WTOP is heard on two AM stations; one in Warrenton, Va., the other in Wheaton, Md., and an FM outlet in Frederick, Md.) "So in effect, streaming audio is like having another mini-transmitter downtown."

Those audio streams also bring WTOP's news to a new group of listeners far outside the Washington area, a factor the station now acknowledges with hourly IDs that include the line "... and worldwide on WTOPnews.com."

Even in a new world in which Webcasts and soon, satellite radio, begin to break down the walls that separate local markets, Farley believes the local emphasis of terrestrial radio will still have a vital place on the dial.

"The satellite providers can't do local news, local traffic or local

weather," he said.

The impending arrival of satellite radio — complete with news services from familiar names like National Public Radio and ABC News — is just one sign of the changing competitive world today's radio newsroom faces.

The transformation of radio ownership in recent years has found some old competitors sharing management at the top, while putting others out of business completely.

## Better as enemies

In Chicago, then-CBS-owned WBBM(AM) had a rivalry with WMAQ(AM) that dated back to the days when it was the NBC flagship in the Windy City. Through the late '80s and the early '90s, WMAQ competed head-on for the all-news audience under Westinghouse ownership. Then came Westinghouse's purchase of CBS in the late '90s, putting both stations under common control.

"WMAQ was kept in a permanent stunted position after that," said Robert Feder, radio columnist for the Chicago Sun-Times newspaper.

Then WMAQ was no more. Last year, the successor to Westinghouse and CBS, Infinity, killed off the WMAQ call letters and sent its staff packing, replacing it on the dial with an all-sports format moved from a

weaker signal.

"When the closing of WMAQ was first announced, some of us wondered if this might be a glorious opportunity to consolidate the best of it into WBBM," Feder recalled.

Instead, WBBM hired only a handful of the former WMAQ staffers. A year later, Feder said, Chicagoans seem to have adjusted to life with just one all-news radio station.

"The surprise is that most of the market share WMAQ had is unaccounted for," Feder said of the most recent Arbitron figures. Instead of gaining substantially, WBBM "was up just a little."

(The Spring 2001 numbers for Chicago gave WBBM a 4.6 share of the 12-plus, Monday to Sunday, 6 a.m. to midnight audience, a gain of less than a full point from Spring 2000, the last full book in which WMAQ competed.)

See NEWSROOM, page 41 ►

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# Newsroom

► Continued from page 40

Trying to figure out the true impact of WMAQ's demise is like trying to prove a negative, Feder said.

"What we may never know is ... what aren't listeners getting that they might have gotten if the competitive situation continued?"

## Common owner

In Los Angeles, there's still a battle for the ears of all-news listeners, pitting KNX against longtime rival KFVB(AM). Here too, things have changed since the CBS/Westinghouse merger put both stations under a common owner.

"These two stations had, for 30 years, been lethal enemies with great competition," KNX's Sims said. "And suddenly we're owned by the same people."



Diane Kepley is an afternoon drive-time anchor at WTOP(AM-FM).

CBS tried to cut some costs through combining purchasing and other back-office operations at KNX and KFVB, but Sims said the company eventually figured out there were few economies of scale to be had — and plenty of reasons to keep the on-air battle going.

"(KNX and KFVB) have on-air products and listenership that are quite different," he said. "Only 25 percent of our listeners even sample KFVB."

Even though their paychecks come from the same source, Sims said the atmosphere on the street hasn't changed from the days when CBS and Westinghouse were corporate rivals.

"My people, when they go out to cover a story, they want to beat the competition and the competition is the other all-news station," he said.

That's a distinction that only one other market claims. New York's WCBS(AM) and WINS(AM) continue their rivalry under common Infinity ownership, prodded by a third all-news competitor, Bloomberg's WBBR(AM), not to mention Spanish-language all-news WNNY(AM), the new entry from Mega Communications.

Everywhere else, searching the dial for full-fledged local news on the radio will generally produce, as KUZZ's Howell describes it, "one player in each market."

Without that competition on the radio dial, small- and medium-market news directors find themselves looking

to other media to make sure they're not missing anything.

At KUZZ, Howell measures his news team against Bakersfield's three TV news outlets.

"Our goal is that there will be nothing in the A-block of any TV newscast that our listeners haven't already heard," he said.

"We look to compete with the local television stations," WTOP's Farley said. "That's the standard we hold ourselves to."

But WTOP isn't just competing with Washington's TV newsrooms. For the last few months, WTOP listeners have heard frequent promos congratulating Allbritton Communication's ABC affiliate, WJLA(TV), for winning a regional AP news award as "outstanding news operation" — the

same award WTOP won in the radio division.

While the promos came from the marketing divisions of both stations (WJLA runs similar ads congratulating WTOP), Farley said they've led to some sharing of resources on the air as well. Bonneville's WTOP anchors have access to Allbritton's WJLA's new Doppler weather radar in their studios. WJLA's star meteorologist, Doug Hill, is now heard several times an afternoon on WTOP.

Such partnerships between different owners are unusual, but in Chicago, Feder said partnerships between properties with common owners are expected as radio-news operations try to stretch their resources.

"They're expecting those people to be covering the other stations (in a

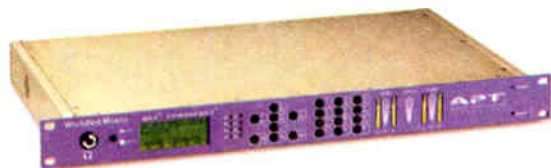
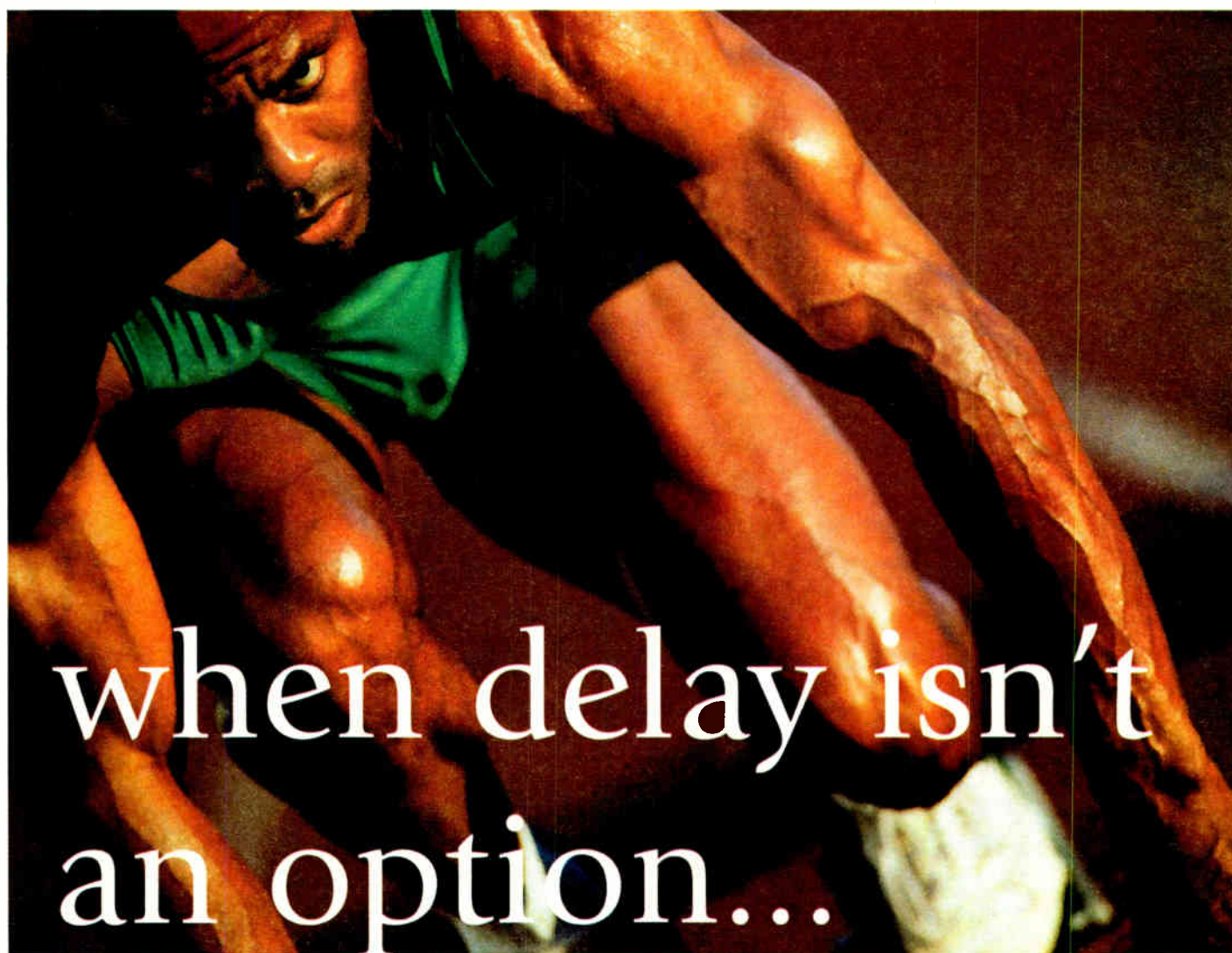
cluster) that have eliminated news and they're expected to have relationships with the (co-owned) television station," he said.

But even as their profit margins are pushed and their staffs are stretched, radio news managers say there will always be a demand for the product they produce.

"Our audience, when you factor in the various things that would cause it to decline, has held its own," said KNX's Sims.

*Business Editor Laura Dely contributed to this report.*

*Scott Fybush, a frequent RW contributor, began his radio career in the newsrooms of WKOX(AM) Framingham, Mass., WCAP(AM) Lowell, Mass., and WBZ(AM) Boston. Contact him via e-mail to scott@fybush.com.*



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## NEWS MAKER

# Off to See the Wizard of Ads

*Roy Williams Discusses Human Behavior, Chaos Theory, Why He Is Not a Good Manager And, of Course, Advertising for Radio*

Ken R.

Roy Williams is not slick. He is not after the quick buck. He doesn't fit the stereotype of an advertising guy.

Williams studies human behavior and determines which specific factors motivate people to go out and buy a product. Then he designs his campaigns from there.

Also unlike the typical advertising agency man, he owns his own radio and television production studios, which are far from Madison Ave. in the unlikely town of Buda, near Austin, Texas.

Through his company, Williams Marketing, he holds high-powered seminars for leading CEOs. The monthly sessions teach creative thinking, strategic planning and human persuasion in a three-day "Wizard Academy." And oh, he writes best-selling books, too.

Radio World spoke to the "Wizard of Ads" to get some insight into how radio stations could get better results for their clients.

**RW:** What is your background? Did you work in radio before starting your own agency?

**Williams:** I started in the late '70s working at a little station in Tulsa, Okla., changing program tapes in the middle of the night for minimum wage. That station didn't even have a microphone in the control room.

I guess they figured that if they were paying us so little, we couldn't be trusted with a live mic.

Meanwhile I saw an ad in a trade magazine for the Gannett group that said "Radio Has Involvement." And I know they're right. All these cars driving around with radio station bumper stickers mean that people want to be identified with the station ... their personhood is wrapped up in it.

When management told me I could start selling ads for straight commission that was my pitch — radio has involvement.

I guess that was the infancy of what we now call branding. The goal of branding is to be the company a person thinks of first and the one they feel the best about. Branding requires involvement.

Four years later, I was a general manager of a 100,000-watt FM in Tulsa and we were No. 2 in 18-to-34 females and I had a sales staff of 32 people.

I was made general manager because I had a good track record as a sales rep. But accepting that position was the stupidest thing I ever did, and offering it to me the worst thing the station ever did.

I realized I hated management and really enjoyed creating advertising campaigns and helping small businesses become big businesses.

I had a lot of people asking me to take over their advertising and in fact, a lot of people bought (time on) our station because I was able to find their unique selling proposition and structure their campaigns for maximum effectiveness.

They even wanted my opinions on what other stations they should buy. I

decided I was going to get into this agency thing and moved to a new town in 1985 and started from scratch.

**RW:** You mean you weren't a good manager?

**'I research bizarre things and then test those theories with millions of dollars of other people's money.'**

**Williams:** I don't even manage my own company now. My wife, Pennie, and Corrine Taylor run this place, and I do what I'm told. I spend my time chasing the beagle through the woods of information.

**RW:** How's that again — a beagle in the woods?

**Williams:** You unleash your intuition; free the beagle in your brain. It was the right brain, the wordless, non-verbal part that allowed Einstein to recognize the relationship between energy and matter.

I research bizarre things and then test those theories with millions of dollars of other people's money.

**RW:** What do you think about the people who write commercials at stations?

**Williams:** Continuity should be the most important job at a station. That person should have the most intimate contact with the client, and usually the account executives keep this person at arm's length.

Sales people typically provide no information other than what they can scrawl on the back of a napkin. This shortsightedness keeps radio from being taken seriously in the advertising community.

**RW:** What is the dumbest thing advertisers do?

**Williams:** Insistence on instant gratification. Some advertisers have this belief that radio advertising works like a giant gumball machine. You put in your money and out come the results.

When they believe that, they are destined to do a series of short-term gimmick-oriented special events. They become addicted to this morphine that works less and less well the longer it's used.

**RW:** Radio stations seem to encourage this. Why?

**Williams:** Because many stations have become stupid and it is getting worse by the day. A horrible, ugly crossfire rages out there and managers are caught in a no-man's land.

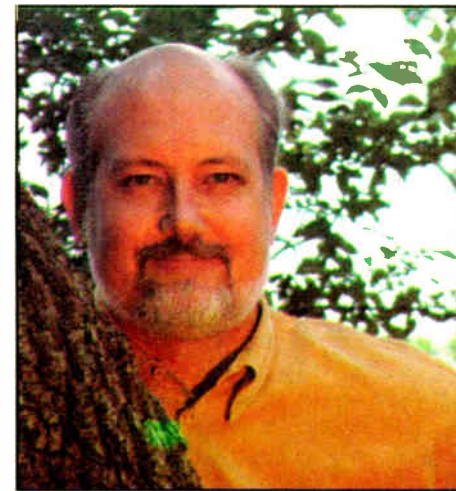
Long-term growth of the client is in their best interest but they're not free to pursue this.

**RW:** Does this have something to do with the recent wave of radio station

consolidation?

**Williams:** Let me be clear about this. A difference exists between consolidation and aggregation.

Aggregators overpaid horribly for properties and then they put enormous pressure on their people to produce unreasonable dollars. They believe that more is always better, and they were willing to pay insane, irrational prices for properties so they could be huge.



Roy Williams

Some broadcasters have their "poop in a group." Instead of getting caught in the frenzy of boosting their bottom line for the current quarter at the expense of the future, they sat on the sidelines and folded their hands and said, "We're in this for the long term."

These far-sighted broadcasters are not interested in the "pump and dump" Wall Street scam. Real broadcasters invest in good talent; aggregators will not.

**RW:** Tell us about some of the research you're doing now.

**Williams:** We are investigating the relationship between physics and human perception, specifically the practical applications of chaos theory.

Recently, this helped us to actually identify the ingredients that make songs hits. Since my two books came out, people from companies like Procter & Gamble, J. Walter Thompson and others have graduated from Wizard Academy.

Although we have clients from coast to coast and we function as an advertising firm, we are really a research and educational organization. Our television division produces a series of videos featuring psychologists, neurologists and other notables who help instruct people about how things really are.

Most decisions today are being made based on how things ought to be.

**RW:** Any final words?

**Williams:** Remember: it's not about advertising; it's about human motivation.

*Williams teaches a three-day Wizard Academy once a month. His books are "The Wizard of Ads" and "Secret Formulas." A third will be available this month. Learn more by visiting [www.wizardofads.com](http://www.wizardofads.com).*

## STATION SERVICES

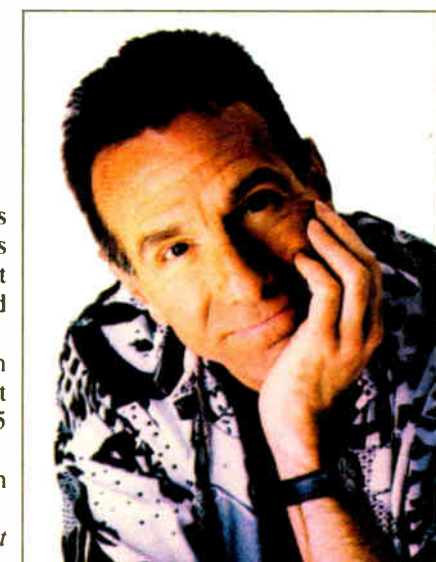
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Dave Wingert

# Your Database Is a Sales Tool

**Ken R.**

Stations compile information from Internet listeners into a database, but few stations have used this tool to build a relationship with advertisers.

Ruth Presslaff, president of Presslaff Interactive Revenue, a voice response system and Web site company, said the combination of a well-maintained database and "permission" e-mail can be a powerful way to gain additional revenue.

**E-mail to listeners**

"You shouldn't ask for too much information from listeners when you register them online," said Presslaff. "All you really need is their first name, e-mail address, birth date, gender and zip code."

Presslaff said the initial contact is like a first meeting with a stranger, so it is inappropriate to ask for annual income data. She strongly recommends that registrants be given the opportunity to "opt-out" or remove themselves easily from the station database.

"The key is to make every message you send them useful, relevant and anticipated," said Presslaff.

Jim Taszarek, president of Taz Media, is a permission-marketing consultant; he and the others quoted in this story spoke at a session at the NAB2001 convention earlier this year on the topic. He lists

several other dos and don'ts.

"Make the Web a priority; don't stick it off in a corner like stations used to do with their non-traditional revenue operation," said Taszarek.

"And use constant on-air promotion to drive your listeners to the site to see what's new."



Jim Taszarek

believes that stations get best results with one united staff, rather than two separate, competing staffs.

"And don't send advertisers a message bragging about your great ratings," said Taszarek. "Focus on the client and his needs."

Some of the same sales tools that are used for traditional radio spots can be adapted for use in database marketing, such as sponsorships, adjacencies, remotes and value-added promotions, according to Taszarek.

"The database remote involves using

particular car. The beauty of it is you have no printing costs and every recipient is pre-qualified."

Taszarek said database remotes use no spot inventory and the normal cost per point debates with the client are eliminated.

A follow-up to this promotion could be activated if the dealership is able to take pictures of the people who show up and tell them that if they see their pictures on the station Web site the following day, those customers can stop back in for an additional prize.



Roger Coryell

**Build bonds**

A virtual "Bridal Fair" is another opportunity to generate revenue via a database marketing plan from businesses such as caterers, wedding planners, tuxedo renters, bakeries and printers while building a close relationship with female listeners.

"You can stream video from the weddings on your site, too," said Taszarek. "Using the Web like this will give radio a good kick in the rear end if we embrace it."

Roger Coryell, new media programmer for Bonneville Broadcasting, advises stations to treat their advertisers like their best P-1 listeners.

"This isn't Internet stuff," said Coryell, "this is relationship stuff."

See DATABASE, page 44 ▶

## Use constant on-air promotion to drive your listeners to the site to see what's new.

— Jim Taszarek

"It's important to do continuing research because this is all in the experimental stages," said Taszarek. "It's OK to fail."

Taszarek advises stations to avoid a separate Internet sales staff, because he

an e-mailed message in a weekly newsletter to target 25-to54-year-old men, for example," said Taszarek. "You give them a coupon they can print out and take into a car dealership for a free hotdog and or special price on a

**STATION SERVICES**

### Groovin' on a Wave with Stars

Groove Addicts, a radio production service, recently convened Al Jarreau, Tom Scott, Lee Ritenour, Richard Elliot, Peter White, Brenda Russell and Bobby Caldwell at their Los Angeles studios to create station IDs for KTWV(FM).

KTWV, an Infinity station, is a smooth jazz station in Los Angeles that is promoted as "The Wave" on-air.

The recent gathering marked the third time that Groove Addicts has produced an ID package for The Wave. Groove Addicts provided the concept, composition, arrangement, production, sound design, artists booking and mixing. All work is completed in the station's format and is designed for use at specific points in each broadcast hour.

For more information contact Debra Grobman, Groove Addicts director of broadcast services for radio, in Los Angeles at (310) 442-1444 or visit the Web site at [www.grooveaddicts.com](http://www.grooveaddicts.com) or [www.groovejingles.com](http://www.groovejingles.com).



From the Left, Groove Addicts' President Dain Blair, Al Jarreau, Groove Addicts' Debra Grobman, KTWV(FM)/The Wave' Producer Michael Sheehy, Groove Addicts' Engineer Gerhard Joost

## THE SOURCE FOR SOLUTIONS

For the last 30 years QEI has supplied innovative FM Transmission solutions.

**HIGHLY RELIABLE SINGLE TUBE GROUNDED GRID FM TRANSMITTERS**

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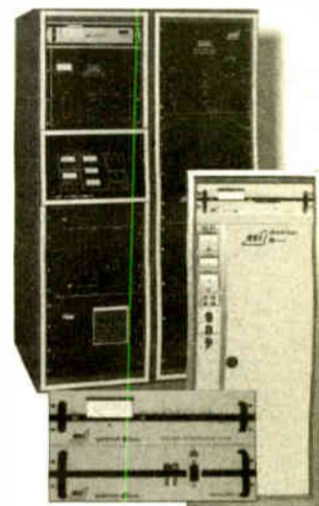
QEI was the first broadcast equipment supplier to offer high-power FM transmitters able to operate from single phase AC power sources. These products allow the development of many transmitter locations where providing 3 phase power would be cost prohibitive.

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QEI also manufactures the finest FM Modulation Monitor and Test System available and the CAT-LINK Digital STL/TSL System.

Contact QEI today and let us put our innovations to work for your station. Contact our sales department at 800-334-9154 (International 856-728-2020) or by e-mail at [qeisales@qei-broadcast.com](mailto:qeisales@qei-broadcast.com).



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QUALITY

ENGINEERING

INNOVATION

# Database

► Continued from page 43

Coryell lists some of the strongest advantages of permission e-mail marketing to *advertisers* as interactivity, the ability to target, relative low cost and flexibility.

"You can build top-of-mind awareness, but beware," said Coryell, "you could be messing with your livelihood."

Coryell suggested that stations begin their permission-marketing program with a specific plan in mind.

"Know who you want to reach and what you want to accomplish," said Coryell.

For stations that plan a targeted mailing to advertisers, Coryell lists some common

mistakes that stations should avoid.

"Don't send an all-purpose message to

very least, by account executive."

Coryell stresses that e-mail should not waste the customers' time — if a message client perceives such e-mail as spam, it is spam.

"You need a program like ColoradoSoft's "WorldMerge," which hooks up databases and your message and this software only costs about \$40," said Coryell. "It will give you an excellent return on your investment while letting you personalize your messages."

Presslaff said the subject line of each message must be compelling and grammar-checked.

"And by the way, you never sell your database to anyone," said Presslaff. "You sell access to the list and the pricing is up to you."

Coryell's final word of advice: Spell the client's name correctly. ●

**This isn't  
Internet stuff, this  
is relationship stuff.**

— Roger Coryell

everyone," said Coryell. "Segment it by industry, by region, by business size or at

**STATION SERVICES**

## Jones Takes Country Overnight

Jones Radio Networks will offer three country-formatted nighttime shows with the addition of the "John Hendricks Country Overnight" program.



John Hendricks

JRN said the Hendricks show comes in time for the fall book. The program airs seven nights a week, from midnight to 6 a.m. in all time zones.

"Our goal is to provide compelling, consistent country programming from 7 p.m. until morning drive and on the weekends too," said Jim LaMarca, vice president/general manager of JRN in Seattle.

"We're delivering with 'Lia,' 'Bill Cody's Classic Country Weekend' and now 'John Hendricks Country Overnight,'" LaMarca said.

For more information contact Shawn Smith in Seattle at (800) 426-9082 or send e-mail to shawn.smith@jrnseattle.com.

## Take a Minute for Your Listeners

Looking for something green to air?

Perhaps the recently created radio program from the Sierra Club and the Smithsonian Environmental Research Center would be of interest.



The Watershed Radio Project features the Chesapeake Bay Watershed, which stretches from New York to Virginia. The Sierra Club produces a daily one-minute radio show that examines cultural, scientific and historic aspects of the watershed area.

## Watershed Radio

An Education Program of the Maryland Chapter/Sierra Club

Each daily program also is available online at [www.watershedradio.org](http://www.watershedradio.org) in RealAudio format, along with a copy of the radio program's script and information relevant to the shows' content.

"We hope the radio program will pique people's interest in a topic and that the [watershedradio.org](http://watershedradio.org) Web site will allow them to learn more with relative ease," said SERC Director Ross Simons.

For more information, contact Andy Roberts in Maryland at (301) 277-7111 or (301) 762-4335.

# Why 3,832 Stations Use Scott Studios' and Computer Concepts' Digital Audio Systems Including New York, Chicago, LA, and ALL of the Top 10 Markets

### Every 17 Hours, Another Station Installs a Digital Studio from Scott Studios or Computer Concepts

There are *countless* reasons why the *most popular* and *best selling* digital systems come from Scott Studios. In fact, *more US stations use Scott Studios' than the #2 and #3 digital systems combined!*

**Easiest to use**

Scott's *user-friendly* intuitive touch screen is the *simplest* for *announcers* to use. It always shows six log events. Color codes show which are spots, promos or songs. Jocks choose whether the event on the air is always at the top, or whether the decks match console faders.



**Big Boy, Morning Show Host at KPWR, Los Angeles, loves his Scott System!**

Jocks get 30 sets of 30 Instant Play buttons, the day's log, 10 cart walls or live copy. A second touch screen can display of any 4 of these 5 areas at once.

Cart walls can *play song requests within a second or two*, and even display the time and date when the song played last and when it's scheduled to play again.

Scott Studios' *phone recorder* with graphic waveform editing and audible scrub is an available option.

Announcers who try Scott Studios' digital system like it so much, they wonder why anyone would ever want to work without it!

Internet ad substitution is easy. Mark "Don't Play on Internet" on a spot and our Scott Sub option takes care of it automatically!

(972) 620-2211 FAX: (972) 620-8811  
1-888-GET-SCOTT

**Smoothest voice tracking**

With Scott Studios' systems, stations in all market sizes are voice tracking some shifts! Announcers hear themselves and everything else in context. Our Voice Tracker has one button operation, auto-post and our exclusive automatic level fixer.

**The best networking**

Scott Studios' systems are the *most bullet-proof* in radio. Server failures don't take down any stations! Scott's exclusive Double Drive networking means every recording can play immediately from at least two hard drives for *the ultimate in redundancy at no extra cost*. Scott hardware is the most robust in the business. We also offer an *Invincible* option with duplicate systems that auto-switchover in a split second, picking up where the first left off!



**Jon Rivers, Morning Host at K-LOVE stations in 38 states loves his Scott System**

**Fewer interruptions in the studios**

Scott Studios uses Microsoft compatible audio files that allows office and sales people to audition spots or promos from their PCs or laptops. Your PD never has to leave his or her desk to fine-tune segues or digitally rip music into the system.

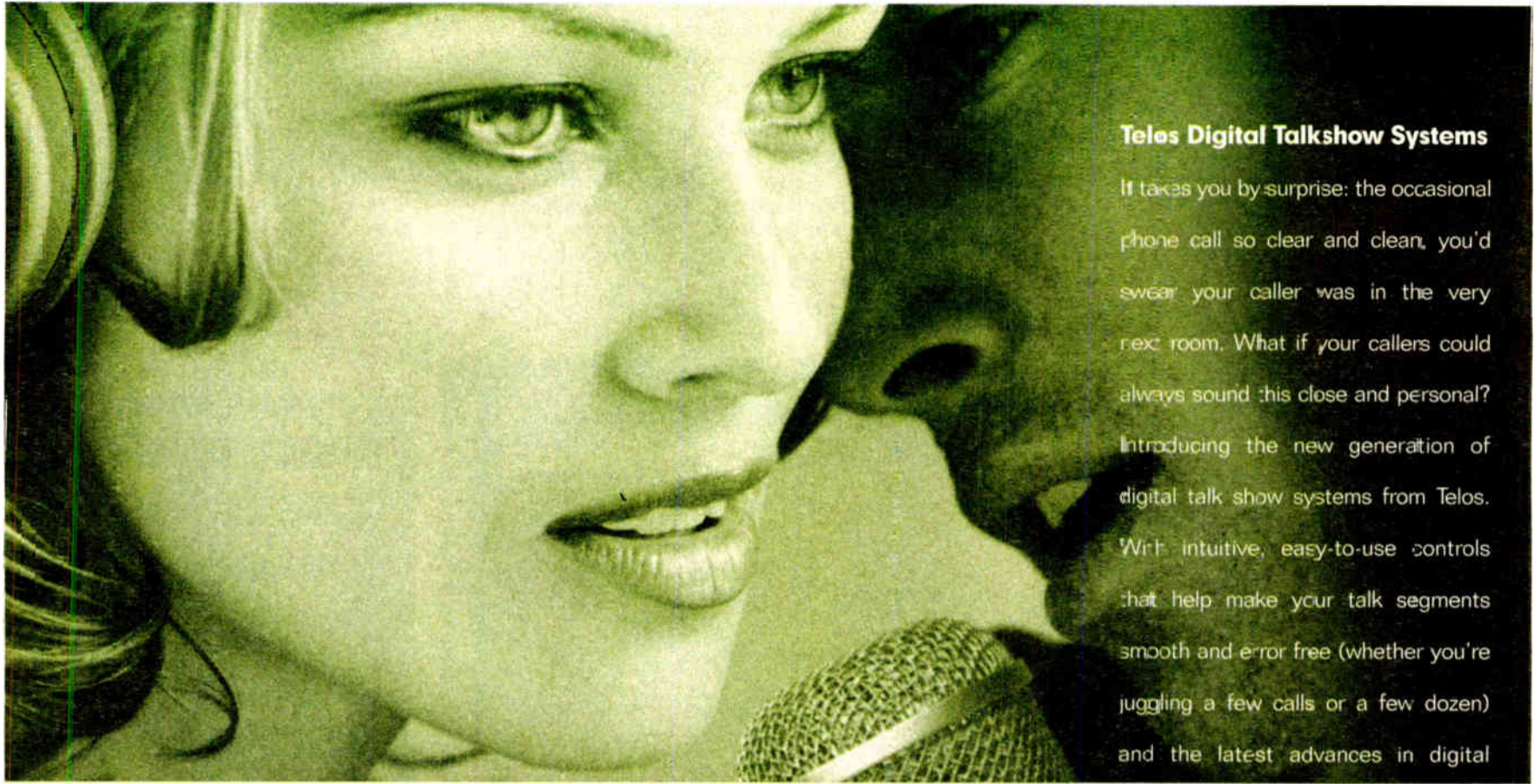
**Live 365 day support 24/7**

Scott stations benefit from the *biggest and best service and support staff* in digital audio, with 105 people at your service. Technicians are in our buildings answering our toll-free support lines live day and night. Supervisors are always available by cell phones.

For details: Call 888 GET SCOTT

# Scott Studios

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Internet: [scottstudios.com](http://scottstudios.com)



### Telos Digital Talkshow Systems

It takes you by surprise: the occasional phone call so clear and clean, you'd swear your caller was in the very next room. What if your callers could always sound this close and personal? Introducing the new generation of digital talk show systems from Telos. With intuitive, easy-to-use controls that help make your talk segments smooth and error free (whether you're juggling a few calls or a few dozen) and the latest advances in digital

phone hybrids from the company that invented them. Never have your callers sounded so consistently loud and crystal clear - it's the next best thing to having them there. Don't just talk to your audience... get intimate.

Talk radio is suddenly intimate

**Telos Systems. Connected.**



#### Telos TWOx12™ Integrated Talkshow System

Using POTS or ISDN lines, the TWOx12 handles up to 12 callers on two built-in digital hybrids. The intuitive phone controller tones even the wildest talk shows.

*Telos*  
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# Emmis Launches New Sales Plan

Laura Dely

Emmis Communications Corp. recently launched a national campaign to attract and develop "the best and brightest sales leaders in the radio, TV and magazine industries."

"Emmis is determined to identify and hire the top people in the sales industry," Emmis Communications Chairman and CEO Jeff Smulyan said.

The "Emmis Sales Assault Plan" is Smulyan's vision, according to Kathryn Maguire, VP of learning at Emmis, who will head the ESAP training effort.

Maguire said Smulyan looked at the economic climate earlier this year and thought about how things would be different if

Emmis properties had an open pocketbook and could hire whomever they wanted to.

**An organized training program is essential.**

— Gary Fries, RAB

"He actually called it the 'Marshall Plan' when he first announced it," Maguire said.

The original Marshall Plan allowed the United States to help other countries recovering from World War II.

#### Troop muster

"We're saying we're helping the Emmis properties to recover or prepare for the war," Maguire said, in reference to the tough times that radio faces in the current economic downturn.

Gary Fries, Radio Advertising Bureau's president and CEO, said he is ecstatic about the ESAP. "We as an industry need to recognize that if we're going to maximize our return on our investment with our people in sales, an organized training program is essential."

Maguire said a number of incentives are on offer to outstanding managers, sales people and new sales hires under the plan.

"Roughly \$100,000 will be set aside for the radio division's 'Chairman's Club' winners. Not only will these sellers receive a heap of recognition, they will also receive a financial award of \$2,000 in Emmis stock," said Maguire.

The Chairman's Club winners also can attend the annual Emmis managers meeting.

"They'll get to hang out with our most senior executives. We have never had AEs at these meetings before, so it's a big opportunity for them," Maguire said.

In addition to the Chairman's Club award, Emmis will offer the quarterly "Smulyan Award of Excellence," which will be awarded to the sales manager who improves the most. The award includes \$2,000 in Emmis stock as well as the company-wide recognition.

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[www.aes.org](http://www.aes.org)

**The move you  
want to make  
when you  
didn't know  
you wanted to  
make a move.**



An Emmis ESAP Print Ad

"The Smulyan award is from Jeff Smulyan's pocket. He elected to waive a bonus and so all the money for the 'Smulyan Award of Excellence' is set aside for employees who go through any type of Emmis learning course. It is meant to recognize growth in their jobs as a result of the training they've received," Maguire said.

Center for Online Learning, or coLearn, will provide online training to new Emmis sales hires. Each quarter, the participant who improves the most will receive an award of \$2,000 in Emmis stock.

Emmis will promote the ESAP program through a national advertising campaign in Emmis media outlets and other vehicles in order to attract sales leaders in radio, television and publishing.

# Buyer's Guide

Tech  
Updates  
Inside



Radio World

Codecs, Telco & STL

September 1, 2001

USER REPORT

## Matrix Does the Job in Ohio

*Columbus Station Discovers Benefits of Codec With POTS, ISDN and Wireless Functions*

by Chris Lufitz  
Chief Engineer  
WNCI(FM)

**COLUMBUS, Ohio** It's one of a broadcast engineer's worst nightmares: going out on site to set up a morning-drive remote broadcast and discovering that the ISDN circuit that you were going to use isn't working.

This situation happened to us at WNCI in Columbus, Ohio, a few months ago, but the Comrex Matrix really came through for us and saved the remote. The Matrix is a codec that has ISDN, POTS and wireless capabilities.

The WNCI Morning Zoo came up with an idea for female singer/songwrit-

ers to send in tapes of their performances to the radio station in order to find an up-and-coming diva. The Diva Search contest was born. The prize was a meeting with a national record rep.

### Diva search

The next several weeks, WNCI received nearly 400 tapes. After going through all of the tapes, listeners helped to choose the eight Diva finalists. The ladies then were asked to perform at a local club before a panel of judges, who would select the winner.

The first challenge with this remote was the scene. The club had an indoor stage, so engineering would be responsible for mixing the live music for the

show as well as broadcasting the Morning Zoo on the air. Some of the performers sang along to accompaniment CDs, while others sang and played instruments.

of the diva remote. Ben was at the club while I stayed at the studio.

After setting up, Ben called to tell me that the ISDN circuit at the remote site was not working. He established an RPU link as a backup. At this point, I thought, "Why don't we try out the Matrix pair?"

The Matrix base unit delivers 15 kHz duplex audio on a single POTS phone



Dave, Shawn and Jimmy of the WNCI Morning Zoo join PD Jimmy Steele with the Diva Search finalists and judges.

USER REPORT

## CircuitWerkes HC-3 Solves Problems

by Ken Skok  
Contract Engineer

**GAINESVILLE, Fla.** Have you ever been in this situation?

Your general manager or program director had this great idea while you were at the transmitter site repairing some damaged equipment.

She needs a sponsored concert line installed by tomorrow night because the advertising and promotions start immediately.

get the job done in a jiffy.

The HC-3's automatic features make it ideal for a variety of telephone tasks such as concert lines, listen lines and remote broadcasting. The dry relay contacts provide an interface to virtually every type of external device including all types of playback machines.

### Call from the road

From concert to listen lines, this device easily can change jobs with minor changes in wiring. For instance,



What toys are you going to put together? Or will you build something into the wee hours of the morning? The CircuitWerkes HC-3 Hybrid Telephone Autocoupler is a box that can help you

many stations have out-of-town program consultants or owners who need to hear a station's programming audio. An HC-3 coupled with a radio or even

See CIRCUITWERKES, page 48 ►

Several months before the remote, we received a portable Matrix unit. It was being shared among the five stations in the market using it with the Comrex Vector on the studio end. Our new Rackmount Matrix showed up the day before the "Diva Search" remote.

I was in the middle of a couple projects that day, but decided to install it before I left that evening, as I was excited to check this new toy out.

My assistant and I worked the morning

line; it works with the company's Vector and HotLine codecs. An optional slide-in module allows operation on ISDN using ISO-MPEG Layer III or G.722; a different module is available for audio over GMS wireless phones.

Ben was able to borrow a fax line at the club and he dialed up the studio unit. Initially we had the MaxRate setting off and the two units connected at 24 kbps. Then we reconnected with the MaxRate

See MATRIX, page 49 ►

### The sportscasters dream machine!

i-mix  
TLM400



TieLine i-Mix is the worlds first fully featured intelligent remote mixer with built in ISDN and POTS Codecs with provision for wireless and IP. Test drive the TieLine i-Mix at NAB Radio 2001

Booth#1647 **AVC** **TELINELINE** AMERICA

## USER REPORT

# Zephyr Goes to Xstreams

**Stephen Kirsch**  
Owner  
Silver Lake Audio

**ROCKVILLE CENTRE, N.Y.** The popular Telos Systems Zephyr ISDN digital transceiver has a fresh new look.

Telos has introduced the Zephyr Xstream, a family of codecs with features comparable its popular Zephyr 9200 and ZephyrExpress 9302 codecs.

It is offered in three versions, a standard 2RU rackmount and two models with integrated four-channel mixer and headphone amp. Mixer units are available as rackmount or portable.

## Maintaining familiarity

Since the mid-1990s, the keys to the success of the Zephyr have been versatility and user-friendliness. Telos may have strayed from this path with the Zephyr Express, a portable codec that was a bit



too confusing for average users to operate confidently.

But with the Zephyr Xstream, the objective clearly was to maintain the

familiarity of the classic Zephyr, while introducing features that reflect advances in codec technology.

Our experience in the rental business has taught us that most customers are not interested in reading the manuals that accompany the gear we provide. So we, too, introduced ourselves to the non-mixer version of the Zephyr Xstream by opening the box and powering it up.

The front panel is straightforward, with send and receive meter strings, synchronization and line status LEDs, an LCD display and various keypad functions. Access to the most common set-up menus is through four short-cut buttons.

## Low delay

New in this unit is MPEG 2 AAC, an algorithm standardized by ISO/MPEG in 1997. Telos says it offers more coding power than Layer II or Layer III, for superior audio quality at lower bit rates and with less delay, about 172 msec.

The AAC-LD low-delay mode further reduces the delay to 56 msec, more than 75 percent less than MPEG Layer III. A trade-off in this mode is the presence of slightly perceptible coding artifacts, comparable to the quality seen in Layer III.

Another welcome feature of the Xstream is the auto-receive mode. Within seconds of connection, the decoder deter-

mines the incoming settings and adjusts itself accordingly.

Telos has added new line status messages. These are important diagnostic tools when problems arise, giving details about ISDN line connection as well as incoming and outgoing call progression.

An enhanced autodial section allows users to store profiles for various destinations. A new location feature allows programming of information needed for use in more than one venue, including SPID numbers.

Digital AES/EBU I/Os are standard in non-mixer versions, and there is a new Ethernet 10base-T port for command controls or TCP/IP connection for FTP transfer of Telos software updates.

## All in one

With a four-input mixer and headphone amplifier, the Xstream MX and MXP versions are all-in-one boxes for ISDN remote broadcasts. The "portable" unit is, however, about the same size and weight as the rackmount version, with the addition of rubberized panels on the top and bottom.

Gain on each input is menu-controlled and is selectable as one of two microphone levels, or professional or consumer line level. In addition, it is possible to assign each input to channel A, B or both via a front-panel switch.

An audio processing option for each channel is viamenu controls. Four choices of processing provide degrees of AGC and limiting. Software functions such as panning and low-cut filtering are available.

The monitor section features four stereo headphone outputs and two XLR outputs, with two software-controllable monitor mixes.

Front-panel pushbutton switches allow for monitoring of send, receive or both. The Monitor 1 mix features a single headphone output and volume control, both front-panel mounted. Monitor 2 is routed to three rear headphone jacks. In addition, the rear-mounted XLR outputs are controlled by the Monitor 2 mix.

It seems to me that there are too many outputs assigned to Monitor 2, and not enough to Monitor 1. But this is a subjective issue related to how the individual broadcaster intends to use the codec.

For information contact Telos Systems in Ohio at (216) 241-7225 or visit [www.telos-systems.com](http://www.telos-systems.com).

## CircuitWerkes

► Continued from page 47

tied to the program line of a station is ideal for such a purpose.

Whenever the need arises, just call the HC-3 and you're listening to the station audio as if you were in town.

During remote broadcasts, I like to provide IFBs for the field talent. One way to do this is to have the HC-3 connected to an intercom.

Before the remote crew begins the broadcast, they dial a dedicated telephone number that is connected to an HC-3. The HC-3's balanced audio input is connected to the intercom system output so that the folks in the studio can talk to the remote crew by pushing a button.

Because the HC-3 has remote indicators and can be controlled from another room, you can mount an HC-3 in your phone room and just run your audio and control wires to it, making for a neat installation.

The HC-3 also contains a balanced audio output and a simple hybrid circuit. Because the coupler has both send and receive audio ports, you can use it to receive audio reports from a remote.

## Security

The balanced output is adequate to drive a console or automation system's input, although I would have preferred a little more output level.

A budget-minded station might be able to pull off a remote by just calling the HC-3 and using its relay to interrupt programming, but that would be risky because anyone dialing a wrong number would have access to the on-air signal.

A solution to the security problem is an optional add-on called a ComboLok.

This adds user-settable password security to the autocoupler. When the HC-3 answers, the caller gets 15 seconds to enter in the password.

If they get it right, the HC-3's relays close and they're on the air. If the password isn't received, the HC-3 will not close its relays and will drop the call.

Because of the simple hybrid, the HC-3 can hear the caller's DTMF tones even if you are playing some sort of audio downstream to the caller.

Of course, a simple hybrid like the one used in the HC-3 is not intended for true duplex operation. You must kill the send audio when you are receiving audio from the field or you will hear the send audio on the air.

## Call progress decoder

One accessory that is often required is the CP-1, call progress decoder option. Many companies have dispensed with POTS (Plain Old Telephone Service) lines in favor of digital PBXs. For users with more than a few phone lines, the cost savings can be tremendous.

Unfortunately, most PBX analog ports do not fully simulate POTS lines. One feature commonly missing is the DC signal that couplers use to hang up after the call is over. Instead, most systems just put dial-tone or a busy signal on the line after a few minutes.

The CP-1 option is a small precision decoder board that sits inside the HC-3 and listens for dial-tone or busy signals. When it hears either one, it forces the coupler off-line. If you're using other makes of autocouplers, CircuitWerkes makes an external decoder called the CP-2 that does the same thing.

Aside from wishing the HC-3 had just a little more output drive, I've had few complaints. CircuitWerkes equipment has been pretty reliable and if a problem should occur, they are good about fixing it.

One thing that can be a big help, especially in the middle of the night, is their online selection of technical manuals. If you need to field repair a box or just change a jumper, CircuitWerkes has the tech manuals for almost everything they've ever made on their Web site.

Overall, I've been happy with the HC-3 and have found its accessories useful. I will recommend it in the future.

For information call the company in Florida at (352) 335-6555 or visit [www.circuitwerkes.com](http://www.circuitwerkes.com).

## TECH UPDATE

### Nicom Composite Aural STL

The Nicom NLS 910/NLR 900 LCD 10 W composite aural STL system requires only two rack spaces per unit. It is externally adjustable in frequency and front-end filter retuning, for ease of use in the field.

Its LCD multi-meter display alerts the user to frequency, forward and reflected power, and modulation levels. Remote software is provided to monitor and change frequency, forward/reverse power and internal temperature, and to turn units off and on. Parameters are password-protected.



Nicom NLS 910

The system is wideband and can be ordered for use with external digital encoders and decoders. It has three SCA inputs and optional 24 VDC power supply. It can be ordered in several frequency ranges from 200-960 MHz, and it is priced below \$5,200.

For information contact Nicom in California at (619) 477-6298 or visit [www.nicomusa.com](http://www.nicomusa.com).



# Matrix

► Continued from page 47 set to 21.6 kbps.

We were able to maintain this connect rate for the duration of the broadcast — over four hours — without the Matrix having to renegotiate the modem connection.

Everyone was thrilled with audio quality of the remote, especially given the fact that we were originating live music from the location. Our first experience with Comrex Matrix was given the thumbs-up by the Morning Zoo, the station PD and all of us in engineering. I'm really glad I stayed late the night before to get the Matrix installed.

A few weeks after the Diva Search remote, the Morning Zoo was doing an hour-long bit at an indoor shooting range about 30 minutes outside of Columbus. This gave me the opportunity to go out in the field and try out the Matrix.

When I got to the location that morning, I established an RPU shot but wasn't pleased with the quality. The terrain was not in my favor for this one. I borrowed a fax line and the morning show bit came off perfectly. Once again, the Matrix came through for us.

On occasion we've even used the Matrix to send RPU and IFB audio feeds between our two studio facilities here in Columbus, when our ISDN units are being used for other things. It's a handy thing to have around the studio and riding around in the remote truck.

The WNCI Morning Zoo keeps engi-

neering on its toes with a lot of remotes and some last-minute, "can we do this tomorrow?" bits. The Matrix is a great backup to our ISDN gear as well as an outstanding system for those last-minute drops.

The portable Matrix unit is small and simple enough to operate; non-technical personnel can handle it in the field. The



menus are easy to navigate; the well-written manual almost isn't needed.

The unit has a small, built-in mixer with two XLR inputs (one switchable for mic/line level) and a 1/8-inch mini jack for a portable tape or MiniDisc recorder.

The Rackmount Matrix occupies a single rack space and functionally is identical to the portable unit. The only difference: the Rackmount version has one line-level input and output with XLR

connectors.

Other interesting notes: The Matrix includes a store-forward feature so you can send 15 kHz audio cuts in non-real time. Comrex points out that this is handy when a circuit won't sustain adequate data rates. Also, you can obtain durable rubber rack "feet" that let you stack the studio version in the field more easily.

Overall, we've been pleased with our Matrix units. After six months, we have come to rely on the consistently good audio the Matrix provides.

With a creative and demanding morning show, I'm sure the Matrix will continue to be a valuable tool in WNCI's remote gear arsenal.

For information contact Comrex in Massachusetts at (978) 263-1800 or visit [www.comrex.com](http://www.comrex.com).

## TECH UPDATE

### Moseley Starlink

Moseley Associates said its Starlink sales have almost doubled this year, in part because the system can be ordered with two linear uncompressed stereo pairs on a single 950 MHz channel.

"FCC Part 74 950 MHz carriers are in short supply as the consolidation of the industry continues to put multiple FM stations into one facility," said Moseley's David Chancey.

The optional Starlink Bandpass (944-952 MHz) Cavity has eliminated interference problems from high-power paging transmitters that are encountered at transmitting facilities, he said.

A two-channel version lets the user select among 32, 44.1 and 48 kHz sampling rates, which is a benefit for users wanting to match the sampling rate of their processor to the STL.

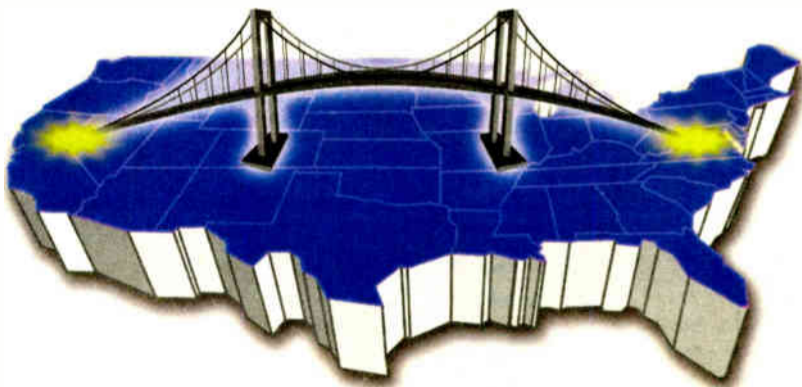
The ability to control spectral occupancy by allowing the user to select QAM rates allows a user to squeeze another carrier into an antenna farm once considered too full for another 950 channel. For redundancy, open architecture allows the user to select a cost-effective T1 package. Separate audio card and V.35 drivers independent of the RF modules are used in this application.

For information contact Moseley in California at (805) 968-9621 or visit [www.moseleysb.com](http://www.moseleysb.com).

## Tele-Link

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## TECH UPDATES

## Energy-Onix Touts Internet STL

The Tele-Link by Energy-Onix is promoted as the only stereo-quality STL link to use the Internet.

The standard system provides bi-directional stereo; versions are available with capacities of four and eight channels. Each terminal of the Tele-Link is available in a duplex form; each end is identical. The price for a two-channel terminal, i.e. one stereo feed, is \$4,000, including the computer, its software and programming to include your static Internet address.

The only limit on the effectiveness of multiple-channel transmission is the bandwidth of the Internet provider. Tele-Link requires 128 kbps of capacity for each two audio channels.

One Tele-Link terminal can drive five

others. If you require more than five, you will have to use a server. With the proper server and appropriate bandwidth, a system can serve as many as 250 Tele-Link terminals.

Analog balanced and AES/EBU inputs and outputs are available. Options such as relay contacts metering functions are being planned.

The Tele-Link contains an automatic restart system and an automatic "fill" from the internal hard disk, which guarantees that there will never be dead air.

Telelink states in its promotional material: "We must emphasize that the reliability of our Tele-Link, and the Internet itself, is better than 99.99 percent. The major consideration for reliability, expense and quality relates to the selection of the proper Internet connection at both ends of the free Internet highway."

Call the company for consultation to configure an appropriate system.

For information contact Energy-Onix in New York at (888) 324-6649 or send e-mail to info@energy-onix.com.

## APT Launches WorldNet Milano

Belfast-based Audio Processing Technology has launched a digital audio codec, the WorldNet Milano, which is intended to replace its popular DSM 100 Pro Link, BCF 256 and 384.

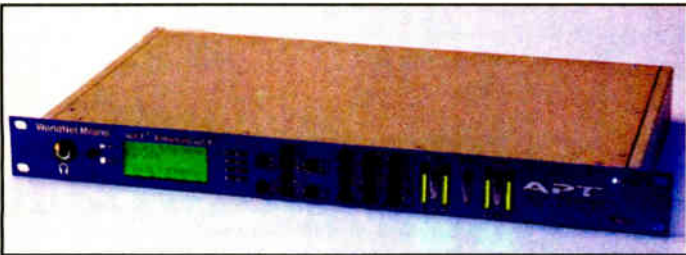
This is the latest addition to APT's WorldNet series, a family of digital codecs that includes the WorldNet Rio.

The Milano features standard and enhanced apt-X, the company's recently upgraded data compression algorithm, which it says provides

enhanced audio quality and reduces delay.

APT is aiming the Milano at the broadcast and post-production markets, and it can be supplied with or without SMPTE timecode. It features four ISDN interfaces, S or U, making it suitable for U.S. standards and others used around the world.

For information contact the company in Northern Ireland at +44-28-9037-1110 or visit www.aptx.com.



## Armstrong Rolls Out Digital Encoder/Decoder

The design of this product allows radio stations to upgrade to digital without incurring the cost of replacing an entire STL.

Armstrong's DTX 4/DRX 4 system delivers a clean signal with S/N ratio of 30 dB on the demodulated base-band signal, or with a signal level at the antenna of up to 20 dB lower than the operating threshold acceptable for an analog STL.

The new product is designed to provide a cleaner sound and greater immunity to interference. A value-priced system, it uses ADPCM source encoding and has facilities for two CD-quality, stereo FM signals, two 8000 baud at 32 kHz digital data channels and telemetry, making it suitable for multiple-station STL use.

It also allows multiple connections in a daisy-chain fashion without signal degradation between relay stations, enabling use for multiple STL hops.

Each unit is housed in a self-contained chassis and is added to existing composite STL systems easily.

The DTX 4/DRX 4 front panels include input level metering, data 1 and 2 indicators, loss of sync alarm indicators, reset circuit trigger alarm, voltage present

indicators, alarm reset button and AC power switch.

For information contact Ernie Belanger in New York at (315) 673-1269 or e-mail ernie@armstrongtx.com.

## Aeta Adds Leased-Line Codec

New to the Aeta USA line of codecs is the HiFiScoop 3 LL (Leased Line).

This codec is used to transmit high-quality digital audio over leased lines. The HFS 3 LL can transmit 64 to 385 kilobits per second over permanent digital lines, via one or two X.24, X.21, V.11 or V.35 interfaces.

It offers a choice of algorithms including G.722 and MPEG Layer II or III. Also available is a decoder-only version for point-to-multipoint applications, an auxiliary data channel, an optional AES interface and full audio monitoring.

The HFS 3 LL is suitable for distribution of audio programs from studio to transmitters, contribution links for events, interconnection of regional stations to main radio stations and transmission over private networks.

For information contact Aeta USA in New Jersey at (973) 659-0555 or visit www.aetausa.com.

## Marti Expands STL, RPU Lines

Marti Electronics has several new products for the RPU and STL arenas: the STL-20C, STL-10A and SRPT-40A, plus a Cellcast for digital services.

The STL-20 C is Marti's latest studio-transmitter link. It incorporates new synthesizer and RF amplifier designs with more power. It is available now in the 950 MHz band and will be offered in other bands soon.

The STL-20C has increased power and improved performance over the STL-15C; the synthesizer is frequency agile over a broader range than previous models.

Also new and shipping is the STL-10A, based on the existing STL-10 and incorporating the new RF amplifier. It will be available in standard Marti frequency bands, from 100 MHz to 500 MHz and also the 900 MHz band. The 950 MHz models are shipping.

For remotes, the Marti SRPT-40A is a 40-watt frequency-agile remote pickup transmitter for the 450-455 MHz band. It has a new front panel and RF amplifier and uses the new synthesizer designed for the STL-20C.



The U.S. model will cover the 450 and 455 MHz frequencies. Export models, available later this year, will be frequency agile over the specific bands in preset steps.

Marti says this is a more reliable RPU, with more power and more features. It allows a broadcaster who has more than two licensed frequencies to use it on any of the more than 150 U.S. RPU frequencies, selectable from the front panel.

The new Digital Cellcast is based on digital (PCS, TDMA, GSM) cellular technology. It offers flexibility in selecting the cellular system desired for remotes, and will have familiar features of other Marti remote products, including four inputs, line in and line out. The Digital Cellcast can be used as a stand-alone remote mixer, POTS remote mixer or cellphone remote mixer.

For information contact the company in Texas at (817) 735-8134 or visit www.martielelectronics.com.

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## TECH UPDATES

## Fibox Fiber Optic

The **Fibox** system allows transmission of audio, video or data over fiber-optic cable. Modular design allows 12 channels to be operated on one fiber.

Features include 12 VDC power voltage; analog inputs at mic- or line-level; analog or AES-EBU-S/PDIF digital outs; and data interface for RS232/422/485, SMPTE and MIDI.

The Two-Channel Analog Master Input Module incorporates a two-channel preamplifier, 20-bit delta-sigma A/D converter, digital multiplexer and fiber-optic transmitter. It accepts mic- or line-level signals on balanced XLR inputs. Phantom power is provided for condenser mics.

Each channel is provided with a mic/line input selector, continuously variable gain control and peak LED to indicate input overload.

The Two-Channel Analog Master Module accepts and demultiplexes optical signals from a FBAI-M transmitter and converts two channels of digital signal to analog using 20-bit collinear D/A converters. Analog outputs are balanced on XLR connectors. A headphone jack is provided for monitoring and signal tracing.

The Two-Channel Digital Master Output Module accepts and demultiplexes optical signals from a FBAI-M transmitter, and converts two channels of digital signal to AES/EBU or S/PDIF digital format. Multiple rate converters provide output sampling frequencies, selectable at 32, 44.1, 44.056 or 48 kHz by a rotary switch. A fifth position allows synch to an external reference signal.

Output is on both XLR (110 ohm) and BNC (75 ohm) connectors and a TOSLINK fiber connector. Slave modules are available.

For information contact Knight's Communications Inc. in Texas at (817) 877-3037 or send e-mail to sales@kci-dfw.com.

## AEQ Eagle Audio Codec

The Eagle Audio Codec was launched by AEQ at NAB2001. This rack unit becomes available for the U.S. market by early October and carries a retail price of \$2,895.

The Eagle can establish two independent bidirectional mono



audio circuits, or one stereo channel or one 20 kHz mono channel. It can multiplex both mono channels to facilitate an on-air teleconference, a feature the company says is unique.

For each audio channel it offers an end-to-end bi-directional data channel with a computer interface port. The Eagle also provides a full-duplex intercom, which allows communication with both audio channels without external operations or cables.

Digital AES/EBU audio inputs and outputs are configurable.

The Eagle connects to the U interface (ANSI) for use in the United States, and the S interface (ETSI) abroad. AEQ E@sy technology facilitates connections to a multi-station RS-422 network for simultaneous software control to Eagles or other AEQ equipment.

For information contact the company in Florida at (954) 424-0203 or visit www.aeqbroadcast.com.

## Gentner Mixer/Processor Comes to Broadcast

Gentner Communications is promoting its PSR1212 digital matrix mixer/audio processor to the broadcast market.

The company says the PSR1212, introduced to the sound contracting market in December, was well-received by the broadcast community at NAB2001.

In addition to enhancing the overall audio quality of a radio or television station, the PSR1212 can be used in a broadcast setting to switch audio distribution quickly from studio to studio in the event that a studio experiences technical failure, the company said.



Features include digital matrix mixing and audio processing with no DSP limits; 32 user-definable preset functions for recall of complex settings; G-Ware software with graphical user interface for easy set-up; the ability to change configurations via serial port, wall-mount or front-panel controls; and on-board signal generator to facilitate testing.

"Gentner got its start 20 years ago developing products for the broadcast market," said Fran Flood, president and CEO. "We have since applied our core audio technologies to other areas, including the audioconferencing and sound contracting markets."

She said the company is taking technologies developed for those markets and applying them back into broadcast, and that Gentner remains committed to developing products for broadcast.

For information call the company in Utah at (801) 975-7200 or visit www.gentner.com.

## Systembase ISDN Backup System

The ABU ISDN Backup System is made by Systembase. The company offers professional digital audio codecs for real-time broadcasting.

Its basic function is to monitor independently, and provide automatic ISDN backup for, existing analog audio circuits. The key application is the backup of studio-transmitter links.

Any point-to-point audio circuit can be backed up, irrespective of transmission method, allowing future upgrades from analog lines to digital without having to replace the backup equipment.

Most systems require a third source should studio output fail completely, so the ABU System offers an input for an auxiliary source, such as a CD/DAT player, for which a contact closure is provided, or a DAB feed where digital radio service exists.

Additional features include remote management and reconfiguration facility and a set of alarm outputs for diagnostic purposes.

For information contact the company in England at +44-1256-882-797, send e-mail to sales@systembase.com or visit www.systembase.com.

## OMB STL System

OMB is marketing its STL system model MT/MR-10, which consists of the MT transmitter and the MR receiver.

Both are externally synthesized, frequency agile, for fast frequency selection across the band range. Power output is adjustable from 0 to 10 W.

Transmitter and receiver have constant-monitoring digital modulation meters, allowing control of system frequency deviation, and useful operational

parameters. A digital display shows the assigned working frequency.

The system allows for the use of two SCA channels in the upper band region, and is designed for use with remote metering and control.

For information contact OMB America in Florida at (305) 477-0973 or visit www.omb.com.

## MusicTAXI NET For TCP/IP

The MusicTAXI NET addition to the Dialog4 MusicTAXI allows stations to transmit audio point-to-point or point-to-multipoint using a LAN/WAN/ATM or ISP. It can also establish transmissions via ISDN (up to four B-channels, 256 kbps) and X.21.

Algorithms supported over TCP/IP, ISDN and X.21 include ISO/MPEG Layer II, ISO/MPEG Layer III, G.722 with H.221 and SRT, G.711, ADPCM 4 subbands and G.722 dual mono.

MPEG AAC implementation also will be available.

The MusicTAXI NET features an independent decoder, autodetection of codec, eight bidirectional contact closures, RS-232, RS-422, panic dial, satellite redundancy, external synchronization, 96-page telephone book, and AES/EBU, S/PDIF and balanced XLR I/O.

MusicTAXI SL and MusicTAXI VP-PRO codecs can be upgraded to TCP/IP compatibility.

Setting up a MusicTAXI NET is handled via a front panel or Dialog4 Windows-based Net Control remote control program, which allows users to configure and monitor any codec connected to the network.

For information call Dialog4 in Germany at +49-7141-226-60, send e-mail to pj@dialog4.com or visit www.dialog4.com.

## Voyager: A Studio to Go

Musicam USA has expanded its line of digital audio codecs with the Voyager. The company says this POTS codec/mixer achieves 15 kHz mono audio over a single standard analog telephone line.

Very low (100ms) delay and 15 kHz audio at bit rates as low as 24 kbps mean Voyager is suitable for various FM formats. It also is used as a backup for ISDN music broadcasts.

A custom-designed modem assures the best performance regardless of conditions on the POTS line. Voyager allows users to renegotiate their connection or re-equalize the line for stability within 1.5 seconds.

Audio frequency response degrades smoothly as line connections fall below 24 kbps. The unit improves on regular analog line quality down to 9.6 kbps. If it cannot make an improved audio connection over a standard line, its telephone coupler can be used to connect in standard telco mode.

A rotary selector lets the user scroll through a range of menu options and select phone numbers stored in memory by pressing the knob. An LED bar display shows the level of sending or receiving audio. A visual percentage measurement of the connection's health lets the operator maximize audio bandwidth and avoid dropouts.

Voyager is bi-directional; studio engineers can control the distant level settings remotely. The entire broadcast can be controlled from the studio; an RS-232 port supports a stream of ancillary data embedded in program audio, which can be used to manage automation software and radio hardware.

Users can send contact closures over the active broadcast link via two optional relays to trigger CD players and alert operators. Portable and rack units are available.

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



TECH UPDATES

## I-Mix Designed For Flexibility

The TieLine I-Mix intelligent portable remote studio aims to bridge the gap between broadcaster requirements for a compact portable mixer and the need to transfer high-quality audio and data back to the studio.

The unit can provide 15 kHz, FM-quality ISDN and POTS connections.

The company says proprietary POTS modem technology offers broadcasters the same stability and audio quality over a standard telephone line as broadcasting over an ISDN link.

As a remote broadcast mixer, I-Mix features up to five mic/line switchable inputs. Each input channel has an intercom button for off-air communications, channel on/off buttons, cue and relay control buttons and mix-I options.

Operational features are software-controlled for flexibility. I-Mix has PA output controls, as well as G3 GSM cellular

and IP data network interfaces.

The I-Mix delivers low-delay, high-quality audio via a choice of codecs. Users can choose from proprietary, full-bandwidth 15 kHz ISDN and 15 kHz POTS speech and music algorithms, delivering 100-ms delay, or interface with generic ISDN codecs using G.722.

The I-Mix can stream text, control data and perform remote control tasks via an ancillary data channel. This allows broadcasters to control station automation and other equipment from the remote site.

Users can also transmit text-based schedules and cue information.

Control of local or remote equipment using relays and intelligent RS-232 software is possible. Real-time chat, upgrade and control software is included in the TieLine Toolbox software kit, which comes with each pair of units.

A line-quality display for standard telephone lines gives the user confidence of link integrity. Auto or manual adjustments can be made to the POTS link to

maximize stability and quality.

The I-Mix can renegotiate the modem bitrate up/down in POTS codec mode, providing maximum link control.

Another feature is the ability to upgrade aspects of mixer control, algorithm and codec management software over the Internet.

For information from TieLine, contact Darren Levy in Western Australia at telephone: +61-8-9249-6688, fax to +61-8-9249-6858; e-mail to sales@avcom.com.au or visit the company Web site at www.tieline.com.au.



## Optilator Modem Protection

In the little more than two years since the Optilator has been available to the radio broadcast industry, more than 2,000 radio stations in the United States, Canada and South America have chosen the product.

The Optilator was introduced by Harris Corp. and covered by Radio World, both in John Bisset's *Workbench* column in May of 1999 and in a product evaluation by Jay Crawford, chief engineer of WYXU(FM) Cincinnati, later that year.

At that time, the company says, Optilator was struggling to get a foothold in a market to prove itself as a lightning protector.

It stated in a press release, "What better place to prove it than a 650-foot tower on top of a mountain screaming, 'Hit me, Mother Nature! Give me your best shot!'"

The company states that since May of 1999, not one Gentner, Burk or any modem used in a communication tower application in the world has been damaged with the product attached. It said the FCC specifies its product as the only one to be used with its monitoring towers.



The product has other benefits than protection against a direct strike by lightning.

"If your tower is in the boonies, and you have a difficult time handshaking with your modem, we can custom-make one to correct the problem instead of driving yourself crazy with the phone company," the company wrote.

This winter, the company plans to introduce a DSL/T1 version of the Optilator. It also seeks distributors for its line.

For information contact John Pecore in Florida at (888) 471-1038 or visit www.optilator.com.

## Conex Flips for Cell Phones

The Conex FJ-10 FlipJack is a small mic mixer designed to interface to handheld cell phones. It is suitable for remote broadcasts, newsgathering and sports play-by-play.

It takes a few seconds to set up, and has two microphone inputs, one of which can be switched to accept a balanced line-level input, making connection to a MiniDisc player easy. It also has a standard headphone jack with its own level control.

The Flipjack measures 3.5 x 1.5 x 4 inches and has a belt clip that can be mounted to the top or bottom of the case for easy maneuvering in crowds.

The Flipjack connects to any cell phone with a 2.5 mm hands-free jack. Adapters are available for phones like the Nokia 5100 and 6100 series that don't have the 2.5 mm connector.

Features include LED level and low-battery indicators, tuner input for off-air monitoring, balanced line-level output and socketed ICs for easy maintenance. The FlipJack operates on its own 9V alkaline battery.

For information contact the company in Washington state at (800) 645-1061 or visit www.conex-electro.com.



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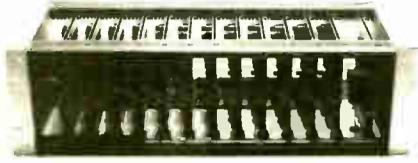
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**SRC-8 Serial Remote Control**  
The SRC-8 provides a means of adding 8 channels of remote control to RF, wireline and fiber type STL systems and may also be used with dedicated modems (full & half duplex models).



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**TECH UPDATES**

**Sonifex Obtains Nicral Line**

Sonifex has acquired Nicral's product line to strengthen its position in radio broadcast communications.

Nicral Ltd., like Sonifex based in England, offers ISDN audio codec products and ARC ISDN control systems, and has a dealer association with Musicam USA.

Marcus Brooke, managing director of Sonifex, said the move puts his company in a good strategic position in a fast-growing niche sector in which it is already active through its Sonifex Courier.

The acquisition includes the ARC Multi-Master ISDN Control System, the ARC AkCESS PC-based ISDN Control software, the ARC-Q Audio Router, the NICA X Digital Audio Codec System and sales distribution in the United Kingdom for CCS/Musicam USA, including the CDQPrima ISDN Codec range.

In product news, the ISDN version of the Sonifex Courier

portable recorder, CO-ISDN, is available. It uses MPEG Layer 2 compression to send mono 11kHz bandwidth audio over an ISDN line. Compatible with Telos, CCS, Dialog 4 and Prosys codec equipment, the Courier provides live audio as well as recording and "cut and paste" editing features.

Brooke called this "the last phase of the Courier's development," useful for a journalist, providing portable digital recording, editing, data transfer and live audio transfer back to the studio in one lightweight unit.

For information about Sonifex products, contact Fraser Jones of Independent Audio in Maine at (207) 773-2424 or visit [www.independentaudio.com](http://www.independentaudio.com) or [www.sonifex.co.uk](http://www.sonifex.co.uk).



Sonifex Managing Director Marcus Brooke and Nicral Directors and Founders Catherine Oates and Nick Broomfield, from left, announce the deal.

**Bext: Sensitive, Selective**

Bext LC STL systems are available in two power levels: 1.5-watt and 6-watt transmitter output. They use the same receiver, which Bext says is extremely sensitive and selective.

For very long paths, in dense RF environments, or to overcome antenna size, type or placement problems, the 6-watt LC STL version offers more power; and amplifiers are available to boost power to more than 40 watts. These systems are capable of paths exceeding 100 miles, according to the company.

Bext STLs have three independently adjustable SCA carriers. Stations that broadcast on two or three SCAs can adjust gain on one SCA signal without altering the gain of the others.

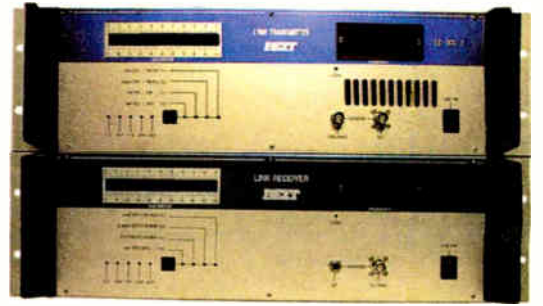
The receiver offers a dedicated port for over 100 kHz, to send remote control commands over the STL without rebroadcasting into the main program.

Among satisfied users, Bext quoted the following: Maynard Meyer, KLQP Radio, Madison, Minn., said, "We had the Bext 1.5 watt system in place for six or seven years, and over time developed the need for a little more zip. Our antennas are a little low, trees are in the STL path, and every winter we run into some icing on the antennas, so a few months ago, we installed the Bext 6-watt units. They sound great, and now we have more signal than we know what to do with."

Dennis Gilliam of KJZZ-KBAQ Radio in Mesa, Ariz., said, "I've used a lot of different STLs in the Phoenix market ... We've always had to use two or three input cavities on a competitor's units, but the Bexts run barefoot. ... On one hop of 73 miles from Prescott to Flagstaff, we run an older Moseley transmitter feeding a special, custom-built 150-watt STL amplifier, and use the Bext receiver. We find that the Bext receiver has a much quieter noise floor."

John Buckham, KKIQ Radio, Livermore, Calif., said, "We have two STL links running here and both have been up many years in less than hospitable environments and have caused absolutely no problems ... On the bench I was able to get 60 dB SINAD with just a -71 dBm test signal ... The third output is invaluable."

For information contact the company in California at (619) 239-8462 or visit [www.bext.com](http://www.bext.com).



**RemoteMix Sport Is Ready for Wireless**

JK Audio offers a new feature for its RemoteMix Sport. The cue input jack on RemoteMix Sport will support two-way communications through any wireless phone that accepts a 2.5 mm headset plug.

The user will continue to use a wireless phone to dial or answer the call, but will use the microphone and headphones plugged into a RemoteMix Sport during the call.

Wireless-ready RemoteMix Sports include a special 1/4-inch-to-2.5mm shielded cord. Mic signals from the RemoteMix Sport are sent into the wireless phone, while the earpiece signals from the wireless phone are sent into the RemoteMix Sport Headphones.

This interface was designed to take advantage of the increasing number of wireless phones that accept third-party headsets and earpiece headsets. JK designed a circuit that emulates the electrical characteristics of these headsets. While some wireless phones have the 2.5 mm jack directly on the phone, others require a headset adapter that converts their proprietary connector into the 2.5mm jack.

If you own an earlier release of RemoteMix Sport, or any other JK Audio RemoteMix Series Mixer, you can use the new JK Audio Daptor One wireless Phone adapter for your wireless broadcasts.

For information contact the company in Illinois at (815) 786-2929 or visit [www.jkaudio.com](http://www.jkaudio.com).



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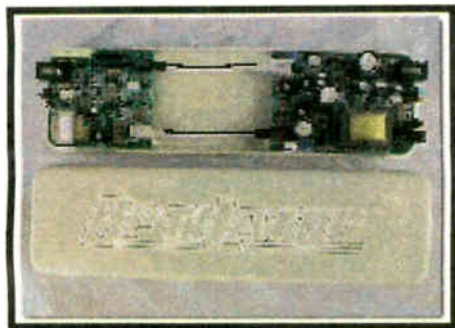
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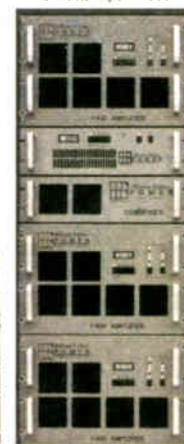
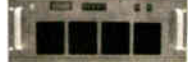
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TECH UPDATES

## Sine Systems Dial-up Audio Interface

The DAI-2 from Sine Systems allows station personnel to perform a remote broadcast from a telephone with no assistance at the studio.

It combines a telephone autocoupler, DTMF tone-operated controller, audio switching, alarm sensing and output relays.

The DAI-2 consists of Sine's Dial-up Audio Interface controller and an integrated relay panel, combined into a single-space rack panel.

Features include relay status indicators; ganged DPDT relay for stereo audio switching; seven DPDT relays for audio switching and control; three factory-programmed command sets; user-programmable command set; momentary or latched relay outputs; four logic-level inputs; DTMF tone decoder; balanced audio I/O; automatic level control for

phone line audio; cue tone generator; and external connections through screw terminals.



The DAI combines these functions as necessary to perform complex actions at the press of a button on a telephone. The system is programmable. You specify what should happen for each key.

The DAI can open or close any or all

of the audio/control relays; route audio from one or more external sources to the telephone line; route audio from the

phone line to one or more destinations; and report the status of logic inputs.

It can monitor the logic inputs and perform tasks based on a status change of the input signals. Logic inputs can cause the DAI to call up to four phone numbers

to report an alarm condition, and open or close any or all of the audio switching/control relays.

The DAI can connect to the phone line under the command of an external device. This allows it to be "keyed" from an RPU or connected to a leased telephone circuit. This opens up other possibilities for remote use. The DAI can send audio to, or receive audio from, the telephone line but it is not a telephone "hybrid" device and cannot do both at the same time.

Available options include the DB-1 delay board, which allows unlimited use of DTMF control tones without

hearing them on the air, and the CI-1 Composite Insertion module.

For information contact Sine Systems in Tennessee at (615) 228-3500 or visit [www.sinesystems.com](http://www.sinesystems.com).

## Mayah Centauri

Mayah Communications GmbH produces the Centauri line of digital audio codecs.

Centauri's remote codec detection feature, automatic algorithm selection and rate adaption simplify its interoperability. Its compression algorithms are compatible with popular codec brands.

Field-upgradeable algorithms include AAC, MPEG 1 and 2, G.722 and others. Centauri is a networkable audio gateway; users can stream audio, datagram broadcast to multiple locations and remotely manage networks over IP-based LANs, WANs and the Internet.



Centauri can communicate using multiple B channel ISDN, X.21, RS422 and V.35. It can select alternative communication technologies automatically in the event of channel failure.

For example, IP communications can be backed up with ISDN. Event-driven programming language lets the unit know what to do when left unattended.

System management, setup and control can be performed using SNMP or a Web browser, or over a dedicated serial control port.

For information from Mayah Communications, contact Detlef Wiese in Germany at telephone: +49-811-5516-0, fax to +49-811-5516-55, e-mail to [info@mayah.com](mailto:info@mayah.com) or visit [www.mayah.com](http://www.mayah.com).

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New Crown FMX Series transmitters, with Crown's Digital System Management (DSM) design, make system monitoring and control faster, easier, and more complete. The four-line display details transmitter operation at a glance, and provides full menu-driven control.

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Dielectric rotary coax switcher for 1-5/8" line. Hardly used. Can email picture, \$1350/BO. Michael Raley, Bible Broadcasting Network, 704-523-5555.

Dielectric 3-5/8" motorized four port coaxial switch. Continental Communications, 314-664-4497. Email: [contcomm@fiastl.net](mailto:contcomm@fiastl.net).

Cablewave HCC-300-50J, 470' used 3-1/8" Air Dielectric line used 1988 to 1997, gas pass flange on one end. Has some bullet hole patches; BO. Michael Raley, Bible Broadcasting Network, 8030 Arrow Ridge Blvd, Charlotte NC 28273. 704-523-5555.

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Audioarts R-60-8 console, used only for light production, \$2100. Michael Raley, Bible Bldg Network, 8030 Arrow Ridge Blvd, Charlotte NC 28273. 704-523-5555.

Shure M-267 mic mixer in very good condition with rack mount, \$300/BO. Al Wodel, WHI-247, 300 S 18<sup>th</sup> St, Estherville 51334. 712-362-7939.

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Orban 6200S or Omnia3NET, for webcast audio processor with SPDIF outputs. Bill DeFelice, More Music Radio.net, POB 20, Monroe CT 06468-0020. 203-929-0730.

Protek P-3502 spectrum analyzer, can email picture, \$750/BO. Michael Raley, Bible Broadcasting Network, 704-523-5555.

Meter for Collins 26U-1 limiter. Tim Coffman, 858-571-5031.

Urei, Universal Audio, dbx, Collins, RCA, Gates. Tim Coffman, 858-571-5031.

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Electro Voice RE-20, dynamic mic, \$375. Phil Cibley, Studio C Music, 166 E 35<sup>th</sup> St, New York NY 10016. 212-481-8141.

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RCA 77-D & 44-B. Will pay up to \$1000 for these microphones in good condition or not. Larry Drago, WELI, POB 85, New Haven CT 06501. 203-230-5255.

Shure SM5B microphones. B Giordano, WODS, 1170 Soldiers Field Rd, Boston MA 02134. 617-787-7589.

Neumann, RCA, Shure, AKG, Beyer & other 1950-1990. Tim Coffman, 858-571-5031.

RCA 77-DX, 44-BX, KU-3A's, WE-639's, On-Air & recording lights wanted, top dollar paid! 615-352-3456, FAX: 615-352-1922. E-mail: [billbryantmgmt@yahoo.com](mailto:billbryantmgmt@yahoo.com).

RCA 44BX and RCA 74B microphones. Our studio used these in 1943 when I first worked in the recording business. These would be mementos. Bob Lindahl, 503-644-9643 or [bob@webgypsy.net](mailto:bob@webgypsy.net).

## MISCELLANEOUS

Want to Sell

New motors, two boxes, a total of 19, Oriental motor, Japan S-30 motors, 7.5W 115V 1500/1800 rpm, \$30/all. Will Dougherty, WLD, Music Valley, Rt 1, Box 1548, Mill Spring MO 63952. 573-998-2681.

19 Volumes of Sams Radio Photofact Service. All volumes in very good shape. BO. Ronald Trumbo, new Life Broadcasting/KNLF, POB 117, Quincy CA 95971. 530-283-4145.

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Peter Dahl modulation transformer, new, never used, still in original crate. Also have new, never used non-PCB capacitors for 1 kW Collins xmtr, BO +shpg. Steve Callahan, WRNI, 1110 Douglas Ave, Providence RI. 401-521-1290 or 800-696-9505.

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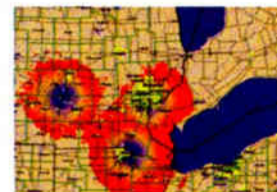
Heavy paper sleeves for 45's record storage. Al Wodel, WHI-247, 300 S 18<sup>th</sup> St, Estherville 51334. 712-362-7939.

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AIWA AD F1000 stereo, 3 head R/P, \$250/BO. J Lalino, WLAL, 319 Rt 29, Middleville NY 13406. 315-891-3110.

Digicarts (2) in very good condition, used every day, 2 Gig hard drives. There are disk drives in each & 18 disks, \$2100/ea or \$4000/both +shpg. Jeff, Faith Cathedral Fellowship, POB 691, Walterboro SC 29488. 843-538-3892.

Nakamichi MR-1 3 head stereo, like new, \$500. J Lalino, WLAL, 319 Rt 29, Middleville NY 13406. 315-891-3110.

Panasonic 3900 DAT recorder with controller, \$1000. Joe James, Santa Fe Voice Studio, POB 1044, Santa Fe NM 87504. 505-982-4404.

Tascam 112 cassette recorder, \$300. Joe James, Santa Fe Voice Studio, POB 1044, Santa Fe NM 87504. 505-982-4404.

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Marti transmitters (4) including (2) RPT-2 UHF units & (1) RPT-15 on 450.950 and (1) RPT-2 VHF on 161.64 & 161.76. All have been tested & are working. Cosmetically good & everything seems to work, \$750 or BO/each. Jeff Raynor, WXYM, POB 5555, Chilhowie VA 24319. 540-781-2064 or [JeffreyL.Raynor@aol.com](mailto:JeffreyL.Raynor@aol.com).

Moseley SCG-8 & Belar sub-carrier receiver tuned to 67 kHz. Worked fine when removed from service, \$400/BO. Jeff Raynor, WXYM, POB 5555, Chilhowie VA 24319. 540-781-2062 or [JeffreyL.Raynor@aol.com](mailto:JeffreyL.Raynor@aol.com).



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Nautel Ampfet 10 in good condition, clean, some spare modules, unit comes with a Phasemaster 3 p hase to single phase converter. \$25,500/BO. Paul Wolf, WCRM, 3448 Canal St, Ft Myers FL 33916. 941-458-3777.

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5 KW FM 1991 BE FM 5B	Moseley TRC-15 Remote w/Hallikainen
6 KW FM 1994 Henry 6000D	Moseley TRC 15-A Remote Control System
10KW FM 1974 Harris FM10HVK	Delta 4 port SW 1 5/8 mot. #6730E
25KW FM 1980 CSI T-25-F	SCA Generator (MX-15 Module)

**EXCITERS**  
Continental 802B  
Harris MX-15  
BE FX 50  
BE FX 30

ATI Line Amplifier  
Optimod 8100A (card 3 thru 9)  
Dummy Load, 5KW water cooled  
Dummy Load, 2.5KW air cooled

2655 Philmont Ave #200, Huntingdon Valley, PA 19006  
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SEND YOUR E-MAIL REQUESTS TO: [transcom@fmamtv.com](mailto:transcom@fmamtv.com)

**ACTION-GRAM**

**EQUIPMENT LISTINGS**

Radio World's Broadcast Equipment Exchange provides a FREE listing service for radio stations only. All other end users will be charged. This FREE service does not apply to Employment Help Wanted ads or Stations For Sale ads. These are published on a paid basis only. Send your listings to us by filling out the form below. Please be aware that it takes one month for listings to appear. The listings run for two consecutive issues and must be resubmitted in order to run again. Thank you.

Please print and include all information:

Are you currently a subscriber to Radio World?  
 Yes  No

Signature \_\_\_\_\_ Date \_\_\_\_\_

Contact Name \_\_\_\_\_  
 Title \_\_\_\_\_  
 Company/Station \_\_\_\_\_  
 Address \_\_\_\_\_  
 City/State \_\_\_\_\_  
 Zip Code \_\_\_\_\_  
 Telephone \_\_\_\_\_

Brokers, dealers, manufacturers and other organizations who are not legitimate end users can participate in the Broadcast Equipment Exchange on a paid basis. Line ad listings & display advertising are available on a per word or per inch basis.

WTS  WTB  Category: \_\_\_\_\_  
 Make: \_\_\_\_\_ Model: \_\_\_\_\_  
 Brief Description: \_\_\_\_\_  
 Price: \_\_\_\_\_

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 Brief Description: \_\_\_\_\_  
 Price: \_\_\_\_\_

\*Closing for listings is every other Friday for the next month's issue. All listings are run for 2 issues unless pressed for space or otherwise notified by listee.  
**Broadcast Equipment Exchange**  
 PO BOX 1214, Falls Church, VA 22041 • Tel: 703-998-7600 • Fax: 703-998-2966

**ADVERTISER INDEX**

This listing is provided for the convenience of our readers. Radio World assumes no liability for inaccuracy.

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23	AETA Audio Corp	www.aetausa.com
54	Air Corp	See ad for contact information
31	Aphex Systems	www.aphex.com
38	Armstrong Transmitters	www.armstrongtx.com
50	ATI	www.atiguys.com
18	Audio Processing Technology	www.aptx.com
41	Audio Processing Technology	www.aptx.com
64	Audioarts/Wheatstone	www.wheatstone.com
34	Auditronics/Wheatstone	www.wheatstone.com
54	Avcom-Ramsey Technologies	www.highpowerfm.com
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4	Burk Technology	www.burk.com
54	Circuit Werkes	www.circuitwerkes.com
56	Circuit Werkes	www.circuitwerkes.com
7	Comrex	www.comrex.com
1	Continental Electronics	www.contelec.com
54	Cortana	cortana@cyberport.com
57	Crown Broadcast	www.crownbroadcast.com
54	Dawning	www.dawning.com
3	ENCO Systems	www.enco.com
11	ENCO Systems	www.enco.com
49	Energy-Onix	www.energy-onix.com
56	Excalibur Electronics	See ad for contact information
14	Ghielmetti	www.ghielmetti.ch
25	Inovonics	www.inovon.com
54	J Squared Technical Service	jsquared@cdsnet.net
20	JK Audio	www.jkaudio.com
27	Klotz Digital AG	www.klotzdigital.com
8	Logitek	www.logitekaudio.com
22	LPB Communications	www.blue5c.com
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## ◆ READER'S FORUM ◆

## KUVU

I just wanted to drop a note and say thanks for the great article on KUVU ("KUVU Builds All-Digital Jazz Oasis," July 4).

The story was great, the photos looked out of this world and I have gotten lots of calls and e-mails from people who have seen it.

All of the folks at Radio World were great. Scott Fybush did a terrific job. Thanks again for helping put KUVU on the map.

Mike Pappas  
Chief Engineer  
KUVU Public Radio  
Denver

## History

I really appreciate your publication's efforts to blend historical articles into Radio World's editorial content. These are great to share with students from time to time, as they help demonstrate an environment far removed from the bland, corporate-controlled media world of today.

Radio has a rich heritage of hard-working engineers, on-air talent and account managers (to name a few) who paved the way for today's electronic media. Keep up the good work.

Russell Strawn  
General Manager  
KMBA(TV)  
Ontario, Ore.

## Behind the '8 Ball'

I have been in this wonderful broadcasting business for almost 50 years.

While a student at Ithaca High School in New York in the late '40s, I joined the Radio Club. We were responsible for writing, producing and announcing a weekly program on WHCU titled "Youth Behind the 8 Ball."

Even the musical theme was composed by a 17-year-old accomplished musician. The unique program featured live music, a talent contest, high-school news and sports along with quizzes and a soap opera parody.

The program logo was the upright "8 Ball" microphone on a WHCU desk stand. The program was broadcast live from WHCU's Studio A each Saturday afternoon from 2:30 to 3 p.m.

Several times a year, we took the pro-

gram "on the road" to area high schools, where the program was recorded live during school assemblies, and played back the following Saturday on WHCU.

A bulky 16-inch disc recorder, three microphones, floor stands and an oversized four-channel remote pack accompanied each trip (no such thing as editing a 16-inch acetate disc, either).



Rudy Paolangeli is shown in Studio 'C' at WHCU in 1954 hosting 'Coca Cola Calling.' Notice the hanging '8 Ball' from the ceiling in the upper right-hand corner.

From 1963 to 1983, I was a part-time instructor at the Ithaca College School of Communications. I retired as general manager of WHCU/WYXL(FM) in 1988 and started an in-home business, RP Media. It's a professional recording and broadcast facility, producing radio commercials, gratis PSAs for more than 30 local nonprofit agencies and a Sunday



Whatever happened to the '8 Ball' microphone?

morning nostalgic music program on WHCU from 9 to 11 a.m.

I also collect vintage broadcast micro-

## Trade Shows: Go Anyway

And therein lies the rub. "Corporate" just laid off a quarter of the staff — not the dreaded but expected housecleaning following an ownership change, but simply a "downsizing effort."

"We just gotta trim a little fat," the GM tells staff.

Prize closets, once full of promotional station goodies, dwindle down to magnets, key chains, temporary tattoos and bumper stickers. Travel budgets are slashed.

"Sorry, Mike, we just can't afford to send you to RTNDA this year," barks the PD.

Disappointed, but not deterred, Mike returns to the newsroom.

"How can I make this work?" he mumbles to himself, as he flips through the glossy RTNDA program. Turning to page 4, he reads "Travel on a Budget" in lime green at the top of the page.

Will you be paying your own way to RTNDA2001? Wondering how you can afford it? Here are just a few ways to save money.

"Bingo," sings Mike, the "go" a half step down from the "Bing."

Mike scans the suggestions.

Drive. Make flight reservations through the RTNDA travel agent. Stay at Opryland. Eat the food provided at any convention events. Share a room with a colleague. Deduct your expenses on your personal taxes. Make a family vacation out of the trip.

Mike considers the pros and cons of paying his own way as he leafs through the rest of the program, noting session topics with interest: "The State of Local News," "Street Reporters Sound Suggestions," "Storytelling With Natural Sound," "Talking to Talent: Effective Coaching and Communication," "News Slogans That Really Work," "Caviar Web Sites on Cheeseburger Budgets."

"Can I really afford not to go?" Mike wonders aloud.

— RW

phones and recently acquired a Standard Electric "8 Ball" microphone. From 1945

microphones. These omnidirectional microphones were hung from the ceiling or placed upright on a desk stand.

If any RW readers own an "8 Ball" microphone, I would love to get a copy of the "specs." E-mail me at [rpmedia@baka.com](mailto:rpmedia@baka.com).

Rudy Paolangeli  
Owner  
RP Media  
Ithaca, N.Y.



Shown is Paolangeli's recent addition to his collection, the Standard Electric '8 Ball.'

until 1955, all three WHCU studios in Ithaca were equipped with "8 Ball"

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# Wheatstone

## DIGITAL AUDIO NETWORK ROUTER

- BI-DIRECTIONAL FIBEROPTIC OR CAT-5 INTERLOCATION CONNECTIVITY
- ALL DIGITAL DOMAIN AES SWITCHING
- ANALOG OR DIGITAL (AES SAMPLE RATE) INPUTS
- BOTH ANALOG AND AES DIGITAL OUTPUTS
- SERIAL CONTROL AND DISPLAY WITH WHEATSTONE CONSOLES

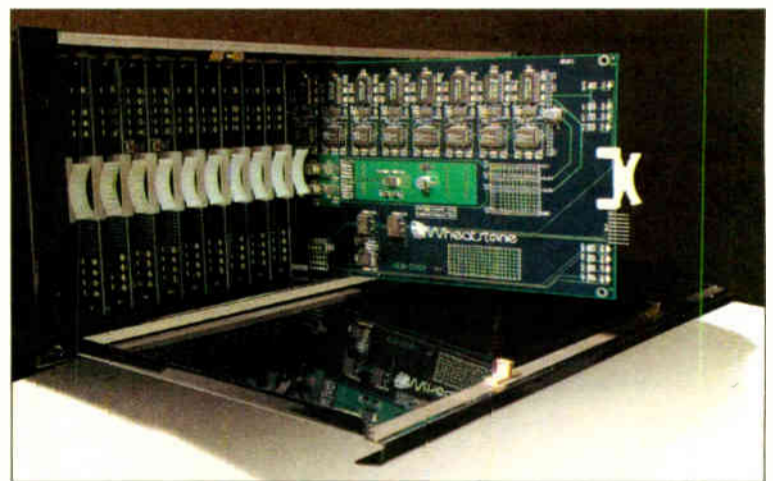
THE 2001 MAKES AUDIO NETWORKING PRACTICAL. It's simple to install, easy to learn, and certain to reduce system costs. Compact enough for small applications, yet stackable for tremendous growth potential, it's design consists of 7" rackmount digital routing cages, each capable of handling 512 simultaneous audio channels on its backplane.

Units can be stacked to suit particular card complements (analog or digital input and output cards or optical network cards) but more significantly cages can be separated by great distances and network their audio through either bidirectional fiberoptic links or a single CAT-5 wire. **ONE INTERCONNECT DOES IT ALL:** 64 channels of simultaneous bidirectional digital audio, intercage communication, X-Y controller commands plus auxiliary RS-232 data streams. This single interconnect between your studio and central rackroom can save you tens if not hundreds of thousands of feet of wire in a typical installation.

The 2001's graphic based setup software is intuitive and easy to use, with all the authorization and security levels you could want. And of course we have a full

complement of control panels and PC applications to choose from—all designed for straightforward operation and a rapid learning curve.

With 25 years of experience, Wheatstone has the infrastructure in place to help you build your OWN infrastructure. Contact us for answers.



**MIXED SIGNAL SWITCHING** is easily accomplished with a choice of AES digital or ANALOG 24-bit A>D input cards, and of course 24-bit digital or 24-bit D>A ANALOG output cards, all of which can be serviced from the front of the cage. All signals are routed entirely in the digital domain.

# AUDIOARTS DIGITAL D-70



The D-70 digital console from AUDIOARTS not only utilizes the latest in digital technology and chip sets, it can be ordered with a serial interface that lets it integrate with most popular automation systems and station routers; it even has WHEATSTONE's exclusive VDIP™ software system.

Plug-in modules let you have any combination of mic, analog or digital line inputs, and the 4 stereo buses give you plenty of flexibility (each has both digital and analog outputs). With sample rate conversion on all digital inputs plus selectable console clock rates of 32, 44.1 or 48KHz (and an optional external house sync) the D-70 can fit right in with all your facility's present equipment.



WHEATSTONE'S VDIP™ Virtual Dipswitch Software lets you configure D-70 input channels with a laptop computer. Once configured console runs stand-alone.

With a compact, tabletop-mount footprint and a modular rear connector system that utilizes plug-in submodules for easy analog-to-digital field switches, the D-70 can be configured onsite quickly and easily. On the functional side, fullscale digital peak plus simultaneous VU metering, LED illumination everywhere, built-in machine interface, automatic timer and clock (stand-alone or ESE slave) all come standard, along with separate source selection for control room and studio plus built in talkback. You can even order the D-70 console with a SUPERPHONE module to support two callers with automatic digitally generated mix-minus. Both digital and analog line selector panels are also available.



**THE D-70 DIGITAL AUDIO CONSOLE** —benefit from WHEATSTONE's experience— at an AUDIOARTS price!