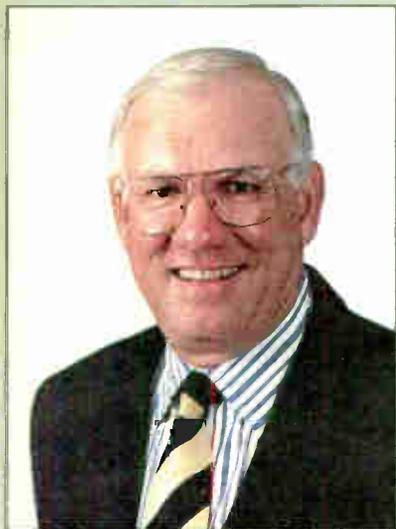


FCC Tie Nixes Liquor Inquiry

by Matt Spangler

WASHINGTON A potential Federal Communications Commission investigation into liquor advertising seems to have dried up, at least for the time being.

In its agenda meeting July 9, the commission deadlocked 2-2 on a notice of inquiry that would commence an investigation into broadcast liquor advertising. Under commission rules, a tie means that the measure would not be adopted. Dennis Wharton, a spokesman for the National Association of



DISCUS President Fred Meister

Broadcasters, said that though the FCC can bring the matter up for a vote anytime, it's not an issue right now.

In November 1996, the Distilled Spirits Council of the United States ended its decades-old self-imposed ban against broadcast advertising. This launched months of debate among the FCC, Congress, the executive branch, public interest organizations and lobbying groups about whether or not the commission should conduct an inquiry and, ultimately, regulate broadcast advertising of liquor and/or beer and wine.

Charles "Buck" Logan, a senior legal adviser with the Mass Media Bureau, presented the argument in favor of opening the inquiry before the commission. He emphasized

See LIQUOR, page 3

NEWS ANALYSIS

WDCU Sale Draws Scrutiny

by Lynn Meadows

WASHINGTON The sale of non-commercial WDCU(FM), Washington, to a religious-affiliated organization last month may change the face of public broadcasting.

All facets of the sale are interesting. First, the \$13 million sale price is phenomenal for a 5.4-kW station at 90.1 MHz. It underscores how valuable even a non-commercial resource becomes when — as in Washington — there is no more of it left.

Second, the sale of WDCU will allow the financially troubled University of the District of Columbia to keep its doors open this fall. Other financially challenged institutions undoubtedly will see dollar signs when they look at their radio stations on the asset sheet.

Indeed, the past year has seen at least two other similar sales. Just this spring, the Flint Board of Education in Michigan sold its commercial frequency. The school board in Yorktown, Va., is wrapping up its sale of WYCS(FM) at 91.5 for \$449,000 to a religious broadcaster.

Last, the group that outbid everyone for WDCU is called Creative Resource Educational Association. Though not for profit, CREA is affiliated with the

commercial religious broadcaster Salem Communications. It is this fact that generated letters of protest from both Robert T. Coonrod, executive vice president and COO of the Corporation for Public Broadcasting, and Delano E. Lewis, president of National Public Radio. Both firmly believe the sale will be a disservice to public broadcasting.

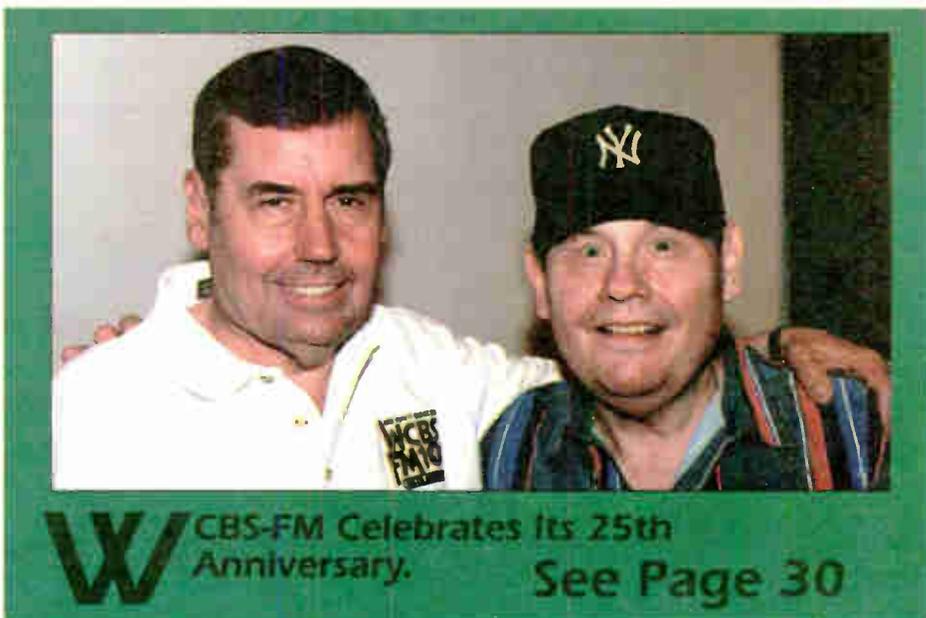
Neither Salem nor CREA could be

reached for comment on the controversy.

Just say no

After the announcement of the sale, Lewis wrote a letter to Andrew Brimmer, chairman of the District of Columbia Financial Control Board, asking him to reconsider. What concerned the public radio community, Lewis wrote, was the

See WDCU, page 6



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Birch Radio Survey Takes Root Again

by Sharon Rae

CORAL SPRINGS, Fla. Touting itself as a "functional equivalent to Arbitron," BirchResearch Corp. is making a comeback with a new seven-day, diary-based radio ratings service.

"Our premise is to offer broadcasters an alternative ratings service that is of equal quality to Arbitron, that utilizes the same basic methodology as Arbitron ... at a price point that's about 40 percent lower than Arbitron," said BirchResearch President Thomas Birch.

According to Birch, it's the significant savings of the service that will draw in broadcasters.

"In the process of attracting money to buy properties, broadcasting

See BIRCH, page 12

NEWSWATCH

Caucus Asks Clinton to Nominate Former Senate Counsel to FCC

WASHINGTON The Congressional Black Caucus wants Ralph Everett, former chief counsel and staff director of the Senate Commerce Committee, to fill one of the vacant slots at the Federal Communications Commission.

On June 25 CBC wrote President Clinton, asking him to nominate Ralph Everett, former chief counsel and staff director of the Senate Commerce Committee, to fill the Democratic seat on the commission opened up by the resignation of outgoing Chairman Reed E. Hundt. (Hundt is remaining in the

position until his seat has been filled.)

After Hundt departs, there will be two vacant seats, including retired Commissioner Andrew Barrett. Commissioner James H. Quello is waiting for a Democratic nominee to be confirmed before he steps down, and Republican Commissioner Rachelle Chong, whose term expired June 30, is likewise waiting for a successor to be named. The White House has already nominated one Republican, Harold Furchgott-Roth, chief economist for the House Commerce Committee, and one Democrat, FCC General Counsel William Kennard, to fill two slots.

Everett is a partner in the Washington law firm of Paul, Hastings, Janofsky and

Walker, L.L.P., where he is head of the Federal Legislative Practice Group. He served on the Commerce Committee for six years.

CBC said that during his tenure on the committee, Everett "played a significant role in major legislation related to communications, specifically, cable, broadcast and common carrier issues."

The White House would not comment on whether it had been considering any other nominees.

Community Comes to Aid Of Station Damaged by Fire

PACIFIC GROVE, Calif. For public radio station KAZU(FM), the

"community" in community radio means coming together in a time of crisis.

"The community has really rallied behind us and we definitely appreciate all the support from our local community," said Jeff Grubb, program and music director for the station, "as well as people ... calling from around the country to see how they can help out."

A police officer discovered a fire in the main studio of KAZU early in the morning of May 7. The blaze, which began in the record library outside the on-air studio, caused extensive damage to the CD and record libraries and to the control studio and transmitter. No one was injured, as the station had gone off the air for the night.

See BRIEF, page 3 ►

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World Radio History

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No Liquor for FCC

► LIQUOR, continued from page 1

that it would be merely a fact-gathering endeavor, and that both public health organizations and the liquor distillers would be asked to provide information.

There were four measures suggested in the notice as a means of regulating the advertising: a complete ban, limiting ads to time slots when children are unlikely to be viewing or listening, presentation of "counter" ads by organizations like Mothers Against Drunk Driving or a "V-chip"-like device that would allow parents to screen out offending ads.

Logan said that President Clinton, the Center for Science in the Public Interest, a coalition of 14 states and Puerto Rico, former Surgeon General C. Everett Koop and MADD are among the organizations or individuals who have petitioned the FCC to conduct an inquiry into the matter. Ness later added that a bipartisan coalition in Congress also asked the FCC to look into it.

The nays have it

Chairman Reed E. Hundt and Commissioner Susan Ness voted in favor of the notice; Commissioners Rachelle B. Chong and James H. Quello voted against it.

Both Quello and Chong stressed that they feel that alcohol abuse is a devastating problem in American society, especially among youths.

A recent study by researchers at Pennsylvania State University suggests that alcohol consumption in the United

States among those aged 16 and older has declined since 1979. But the report states: "Researchers and policy-makers should ... exercise caution in attributing the decline in per capita alcohol consumption to anti-drinking campaigns and related policy measures."



Commissioner Rachelle Chong

Both commissioners said that it is not FCC jurisdiction to investigate alcohol advertising. Quello said the Federal Trade Commission reportedly is conducting two investigations into the impact of liquor advertising on youth, and hence it would be a duplication of effort and a waste of government resources for the FCC to begin a separate inquiry. Ness said that information about the FTC investigations was based on

unsubstantiated media reports, and that there was no evidence the organization would be issuing a report.

Victoria Streitfeld, director of Public Affairs at the FTC, said that it is FTC policy not to comment on what matters it is investigating. She said that the FTC is, however, interested in the effects of liquor advertising on minors.

The Washington Post reported on July 10 that the FTC is investigating four alcohol companies, including distiller Seagram Co. and brewer Anheuser-Busch Cos.

Quello also said any such action would be a violation of an agreement with the FTC giving it primary jurisdiction in advertising investigations.

Renee Licht, deputy chief of the Mass Media Bureau, countered that this agreement was a "memo of understanding"

(Quello and Chong) have made a mockery of the commission's responsibility to require that broadcasters serve the public interest.

— George A. Hacker, Director
CSPI Alcohol Policies Project

that empowered the FTC to investigate "unfair or misleading" advertising, not "truthful" advertising aimed at adults, as the commission was characterizing liquor ads. In her mind, the commission had jurisdiction over advertising because of its oversight of the public airwaves.

Chong in turn rebutted, saying that she didn't believe that using the FCC public interest mandate to look at truthful ads aimed at adults made much sense.

She said broadcasters enjoy First Amendment protection of truthful

advertising, and that if the FCC were to commence such an inquiry it could open a Pandora's Box of investigations into all types of advertising.

Hundt cited case law such as *Reno vs. ACLU* and the commission's inquiry into cigarette advertising as precedents for the liquor investigation. Chong rejected these as precedents, saying that the Reno case did not specifically address FCC authority to investigate advertising, and that Congress should mandate any such investigations. Addressing Ness' contention that the FTC inquiry would not provide an opportunity to register its views on the issue, Chong said that a congressional inquiry is the proper public forum for the issue.

Quello also said that a number of members of Congress have formally questioned the FCC's jurisdiction in the matter over the past few months.

'A mockery'

NAB and DISCUS were quick to praise Quello and Chong. "Commissioners Quello and Chong deserve praise for recognizing that Congress and the Federal Trade Commission have appropriate jurisdiction in dealing with issues related to alcohol advertising," said NAB President Edward O. Fritts in a written statement. He also pointed out again that very few stations have agreed to accept liquor advertising.

DISCUS President Fred A. Meister again called upon Hundt to reinforce the organization's call to President Clinton to bring together the beer, wine, spirits and broadcast industries to adopt a common code for alcohol advertising.

In a written statement, George A. Hacker, director of CSPI's Alcohol Policies Project, lashed out at Quello and Chong. "(They) have made a mockery of the commission's responsibility to require that broadcasters serve the public interest," he stated. "We expect President Clinton to appoint new commissioners who will be more sensitive to the rights of children."

Hundt, Chong and Quello are all stepping down from the commission, pending confirmation of nominees to replace them.

NEWSWATCH

► BRIEF, continued from page 2

The cause of the fire had not been determined.

Damage was estimated at \$200,000 to \$300,000. The station has received many donations of music from record companies and financial gifts as well. Some of the office supplies, including computers with membership databases, were spared.

Grubb said that, at press time, the station was hoping to begin broadcasting again July 10. The station has relocated to another studio, with more space, in Pacific Grove. "We're committed to serving the community that has supported us for almost 20 years," Grubb said.

ABC Tops Murrow Award Winner List

WASHINGTON ABC News Radio will be showered with awards for excellence in electronic journalism at the Radio and Television News Directors Association's fall show. The network will receive four Edward R. Murrow Awards at RTNDA97, which will be held September 17 to 20 in New Orleans (separate from the NAB Radio Show).

Other winners include WBAL(AM), Baltimore and WHO(AM), Des Moines, Iowa.

CBS Evening News anchor Dan Rather will also be honored by RTNDA, receiving the 1997 Paul White Award. The association's highest honor will be

given to the veteran broadcast journalist at RTNDA97 as well.

Though he has worked primarily in television, Rather was news director of KTRH(AM) in Houston early in his career.

Meanwhile, the Radio and Television News Directors Foundation reported that Tom Banse, regional correspondent for National Public Radio in Olympia, Wash., won a prestigious German media award in May.

The Radio in the American Sector Berlin Commission gave Banse \$4,000 for his documentary "Of Boeing, Beer, Benefits, Braves and Berlin .. A Special Report. Germany-Pacific Northwest: The Unexpected Connections."

The award is administered in the United States by RTNDF as part of its German/American Journalist Exchange Program.

Audio Processing Company on the Block

THOMPSON, Conn. Audio processor manufacturer Hnat Hindes is up for sale.

Bonnie Hnat, principal of the maker of the Ultramod DSG-2001 digital stereo generator, said that she is retiring from the business. She said there was a prospective buyer at press time, but would not divulge information on the company. It was rumored, however, that two major transmitter manufacturers were looking at the company.

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Sorenson Broadcasting Is 25

WASHINGTON So much to write about, so little time. And so many people with such good things to say.

From time to time, we bring you opinion from select people in the industry, in the form of *Guest Commentaries*. Look for Mike Dorrrough's — his call letters are KO6NM, he is the president of Dorrrough Electronics and inventor of the Multi-Band Audio Processor and the Dorrrough Loudness Monitor — on the facing page. His formative years were spent mixing for some of the biggest names in music at RCA, Motown and Hudson & Kasem recording studios.

★ ★ ★

And speaking of people, some of the nicest folks in the business celebrated a birthday. Sorenson Broadcasting, which started out with an AM radio station in 1972 in Central South Dakota, celebrated its 25 years with a big bash on July 30 in Sioux Falls, S.D. A family of 15 stations, Sorenson Broadcasting has always been an example of radio the way it could be: local, professional and committed to broadcasting.

Many of you may know Dean Sorenson from his years of service to the industry as part of the NAB board. Anyway, happy birthday to all of you and congratulations!

★ ★ ★

Managing Editor Paul McLane stopped by the offices of Dataworld in Bethesda, Md., last week. You've seen their ads in *RW* through the years and many of you probably know Hank Brandenburg and Jack Neff. They have built quite a success story.

Jack and his crew report a sudden boom in television-related business these days, as TV managers try to figure out how to implement DTV. But radio remains a big business, thanks to the AM expanded band and to consolidation. Imagine an account executive for a 100-station radio group bringing a national client into his or her office to show off a wall map of the United States. On that map: 100 radio patterns in cities large and small.

"Lots of people are selling through maps instead of ratings," Hank told Paul. It is an effective sales technique, especially if your ratings are nothing to brag about. Dataworld, for instance, can put important retail locations on its maps, the better to impress a client.

Jack and Hank also are touting a new, detailed database for broadcasters called DataXpert.

★ ★ ★

Earlier this summer, this business lost one of its key people when Sidney Joseph Levet III died in Louisiana. Many of you may know that Levet founded WCKW-FM in Laplace, La., in 1966, then WCKW(AM) in Garyville, La., in 1970. He began his career with a degree in electrical engineering from the University of Southwestern Louisiana and worked as an electrical engineer for the FCC in Washington and Atlanta from 1961 to 1963. From 1979 to 1989 he worked as a consulting radio engineer.

Levet was honored by the Louisiana Association of Broadcasters with a Lifetime Achievement Award in 1989 and was named Broadcaster of the Year by the association in 1990.

Our heartfelt condolences go out to his family.

★ ★ ★

When packing for the NAB Radio Show in New Orleans next month (and I hope to see you there) remember that the RTNDA also is hosting its annual gathering at the same time. Headliners include Walter Cronkite, special correspondent,

anchor, "Dateline NBC"; Carole Simpson, anchor, "World News Sunday" and senior correspondent, ABC News, and Tony Brown, host and executive producer, "Tony Brown's Journal," PBS. Specialized tracks at the conference include: radio, television, smaller market, management and technology.

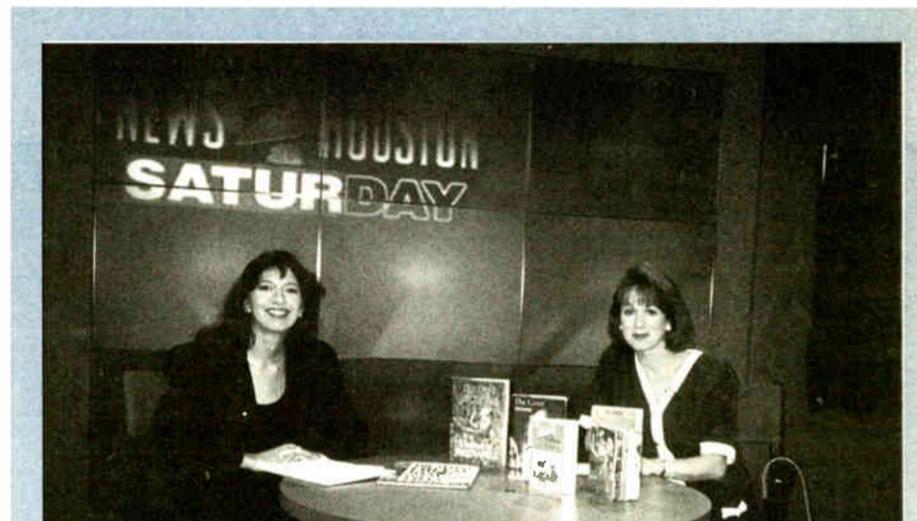
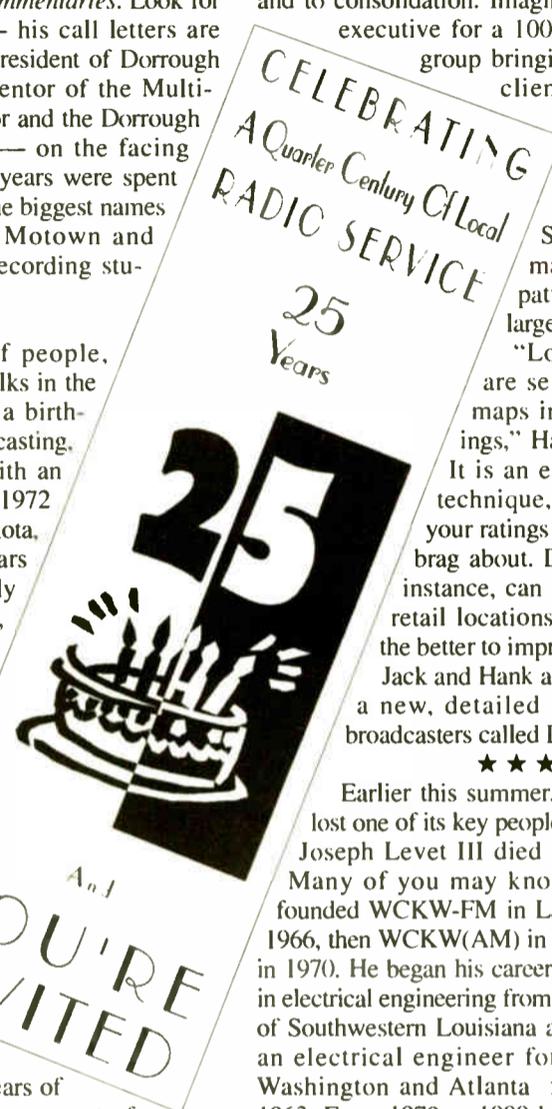
The radio track offers training and advice geared to the radio newsroom. The agenda includes:

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- Arbitron Basics: Putting Your Numbers to Work for Your News Operation
- High-Tech Toys for Your Radio Newsroom
- Sounds of Success: Creating Compelling Radio News
- Local Radio News: Can It Survive Deregulation?
- Radio News Directors: The Next Century
- Profitable Partnerships: Bridging the Gap Between News and Sales
- Radio Give & Take: An Idea for Exchange
- Recruiting for Radio: How to Find and Keep Good Employees

For more information, contact RTNDA at (800) 80-RTNDA or visit the association website at <http://www.rtnnda.or>

Earlier this summer, this business lost one of its key people.

CBS News; Dan Rather, anchor and managing editor, CBS Evening News, and anchor "48 Hours," CBS News; Brian Williams, anchor and managing editor, "The News With Brian Williams," MSNBC, and Saturday anchor, NBC Nightly News; Stone Phillips, principal



NewsRadio 740 KTRH Afternoon Drive News Anchor Marisa Ramirez (right) appeared on Houston's KPRC Channel 2 with Janet Shamlian to encourage awareness of the "1997 KTRH Campaign to Erase Illiteracy," benefiting the Houston READ Commission. The initiative included a series of feature stories, a city-wide book drive and participation in reading to children at schools and public libraries.

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GUEST COMMENTARY

Tesla, Marconi ... And Darwin

Mike Dorrough

As a big fan of old-time radio, naturally I am nostalgic about the way things were. A spin up and down the dial usually intensifies my longing for the good old days. Even more disorienting are the changes behind the scenes, not on the technical side, but in the culture of the radio business.

Deregulation and acquisition mania have had an effect on the internal structure of broadcasting even more profound than that of television. We can pretend not to

notice the similarities between the diminishing number of American manufacturing jobs and the looming human tragedy of broadcast "streamlining and automation," but that won't change the impact.

Is it possible that what hurts and frightens us now, may benefit us all in the long run? Are we evolving toward a new radio culture?

Early radio culture

Long after Burns and Allen, Jack Benny and the Lone Ranger had deserted amplitude modulation for greener fields of pixels, radio stations carried on with virtually the same sort of internal structure. The same impressive buildings, consoles, turntables, regal transmitters and capable engineers supported the antics of DJs and game shows in lieu of high-ticket comedy and drama.

Broadcasting still was considered a classy haven for brainy guys with a voltmeter in one hand and a pipe in the other. Insecurity was the sole province of "talent." The institution was faced with FCC mandates, but could still be competitive because all stations were forced to comply. Radio stations often were operated by networks that also ran television stations. As a result, there was a cushion for radio as the revenue stream moved toward TV. Radio "carried" television during its long and painful development, and the favor was returned for a time. Fortunately, by the mid-1950s, the radio business tapped into a new, seemingly bottomless gold-mine: rock 'n' roll.

With TV and radio specializing and exploiting diverse revenue streams, it was possible for independents to flourish. You didn't need the clout of a stellar network, just a likable jock and a stack of records. The FCC still required diversity and some "service" in exchange for a license. Thanks to intrinsically low overhead, profits were good enough to maintain much of the workplace ambiance and hardware of the glory days.

Clean language and crew-cut engineers remained in vogue. Any "nasty stuff" was embedded so deeply in the "coded" rock lyrics that parents and the establishment were pretty much oblivious. By the mid-'60s, "talk" was becoming more prominent on AM, as music formats blossomed on the FM band.

A fragile campfire

The early talk shows, usually heard late at night, were a far cry from what we hear today. They weren't anger-based shout fests. They were distilled human experience, the pure joy of story-telling. Human beings have been sitting around campfires and telling tall tales for thousands, if not millions, of years. The campfire had evolved into a little box with burning filaments glowing in the night. Its light could illuminate a nation.

Over There, Over Here

It's hard to keep up with events in the widening world of media. Many of us have our hands full just reading about radio.

Ignorance is bliss. Education is work. But to thrive in 1997, radio people can no longer afford to be insular, if ever we could.

Item: Clear Channel Communications International is buying 50 percent of Rádio Bonton in the Czech Republic for \$1 million.

Officials are looking at more opportunities in Central and Eastern Europe. The U.S. broadcaster also has interests in stations in New Zealand and Australia.

Item: Harris Corp. wants to invest millions of dollars in emerging-market broadcasters. At the NAB convention this year, the company announces a new pool of capital worth millions of dollars to help would-be broadcasters get started.

Item: As this issue of *RW* goes to press, word comes that radio owner Chancellor Media will buy Katz Media Group, which represents radio and TV stations in selling air time to advertisers.

Item: Politicians and national networks devise ratings for sex, violence and language on TV. Could this set a precedent for radio ratings?

Item: The FCC ponders whether to allow satellite digital audio radio providers to use terrestrial "gap fillers." The NAB argues that the proposals aren't complete technically. Despite assurances, some radio people fear that gap fillers will become a wedge for DARS providers into providing local information, thus competing directly with traditional radio.

These are real-life examples of "convergence," which is more than a distant dream about receiving TV programs on your computer. Convergence is here, in many forms: global owners with holdings in numerous media; engineers who must learn to manage super station clusters; suppliers looking outside of the radio arena to expand their business.

Confronted with the onslaught of such stories, which may not seem pertinent as we go about our lives in radio, we must avoid the temptation to say, "Oh, that's overseas," or "That's TV, so it doesn't affect me." We must seek to understand the effect of these stories on our employers, our suppliers, our co-workers, our jobs.

— RW

But campfires, even the electronic variety, are fragile. They must be fueled and protected from the elements. Radio was about to be pummeled by the storm of deregulation. It was the 1980s and America was bitten by the bug of free-market Darwinism. Free-swinging competition and cutthroat capitalism transformed the nation. Only the fit would survive.

Airlines that had invested in building worldwide routes over half a century suddenly were competing with Spartan upstarts. Chaos reigned in the telephone industry and billions of dollars suddenly were set into motion like electrons in a wire. The old fat cats, so long protected by a carefully crafted, self-serving maze of regulations and price controls, were displaced.

Some observers thought all that power and money would trickle down to Main Street. A little did, but most wound up in the pockets of a new breed of ruthless fatter cats and Wall Street sharks. These predators viewed viable companies as food to be cut up and consumed for instant gratification.

Broadcasting had its share of complacent fat cats and corruption, to be sure. By the 1990s it was an irresistible temptation for politicians to throw the industry into rough waters to sink or swim. Why should "cushy" radio gigs be any more secure than the jobs of welders and machinists working in the rust belt?

This theory was the personification of the class-envy card played so effectively to put white-collar types against blue-collar workers. In the end both might lose, but that's not the point. The truth of the matter is that radio is not just a business. Radio is the national soul and nervous center. The radio spectrum is the property of every man, woman and child.

Radio waves have little respect for state borders and closed doors. They can find you in your speeding car and your children in their playrooms. Such a powerful

cultural force must be viewed as more than a cash cow. Technicians and on-air talent laboring in the broadcast field are doing something that transcends punching a clock in a kilocycle factory. For better or worse, they are creeping into our consciousness in ways too profound to ignore.

'Duopoly Sarnoffs'

Now the federal government has all but abandoned its role in radio husbandry. In a way, we have merely come full circle. The few powerful figures who controlled radio in the early days had the clout and focus to pressure the government into setting standards and practices. It was good business sense and a way to enhance their status as "culture enhancers."

They knew instinctively that, without some rules, a race to the bottom for ratings would result. A dirty joke is easier to write than a genuinely funny bit. Nobody wanted to be a mogul over a media dung-heap!

Now that the cycle has brought us back to a similar consolidation of power, maybe the "duopoly Sarnoffs" will do what is necessary to protect their investment, and most important, nurture the gifted people who make it all work. Once the industry has regained its balance, an inevitable second "evolutionary cycle" might lead to more diversified ownership as the giants, who fail to get hooked on the romance of radio, take their profits and move on to the next business challenge. More individual owners with a genuine affinity for radio will result in more local programming, and more opportunities for young talent.

Radio, in stark contrast to mega-buck TV or to the Internet, is suited to addressing local concerns. That grass-roots connection will always be our trump card. Maybe the loving stewardship of radio through a difficult time isn't purely Darwinian, but neither is preserving endangered species for future generations to enjoy.

Stay tuned!

Radio World

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telephone: (703) 998-7600
editorial fax: (703) 820-3245

The editorial staff can be contacted at the phone extensions listed below.

Lucia Cobo	Editor in Chief	ext. 115
Paul J. McLane	Managing Editor	ext. 117
Alan Peterson	Technical Editor	ext. 135
Matt Spangler	Associate Editor (News)	ext. 122
Chris Hamaker	Assistant Editor	ext. 147
Susan Gary	Assistant Editor	ext. 144
John Bisset	Technical Advisors	
Thomas R. McGinley		
Steven B. Dana	Publisher/CEO	
Carmel King	Chief Operating Officer	ext. 157
Marlene Lane	Editorial Director	ext. 128
Alan Carter	Editor in Chief (International)	ext. 111
T. Carter Ross	Editor (International)	ext. 237
Christine Joaquim	Managing Editor (International)	ext. 138
Rogelio Ocampo	Latin America Managing Editor	ext. 121
Marguerite Clark	European Editor	
Linda Sultan	Editorial Assistant	ext. 141
Stephanie Muller	Editorial Assistant	ext. 130

Contributors: Lynn Meadows, Frank Beacham, Alan Haber, Bob Rusk, Lee Harris, Dee McVicker, Ty Ford, Sharon Rae, James Careless.



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Next Issue of Radio World
August 20, 1997

Users Will Roar Along With ADSL

by Bob Rusk

ARLINGTON, Va. A new service from Bell Atlantic Network Services allows data transmission 100 times faster than conventional modem speeds.

Internet audio companies cannot wait.

Bell Atlantic will launch the new high-speed data communications service, which uses ADSL (asymmetric digital subscriber line) technology, for consumers in mid-1998. The technology allows Internet access at speeds of up to 6 Mbps, compared to the fastest analog telephone modems, which receive data at a rate of 56 kbps.

"Internet applications are becoming rich in multimedia content, such as video and audio," said Fred D'Alessio, president of Bell Atlantic Consumer Services. "Consumers are hungry for faster speeds to take advantage of this content and for telecommuting or remote access to corporate computer networks. ADSL puts consumers in the seat of a Ferrari, roaring past analog modem users still in the bicycle lane."

This advancement is hailed as good news by broadcast supplier Telos Systems, which makes Internet-based tools.

"We are in favor of anything that improves Internet access. It helps everything we are doing," said Telos President Steve Church.

While the Internet is already overloaded with today's low bit rate analog modem connections, ADSL will not add to the congestion.

"ADSL uses different routing," said Bell Atlantic spokeswoman Joan Rasmussen. "It is a dedicated data transmission path that does not tie up the voice network. Analog modems use the voice network in a way that was not intended — tying it up for lengthy periods of time. A telephone call might last four or five minutes, (but) a typical data call using an analog modem might take many times that."

Trial run

Bell Atlantic is conducting an ADSL market trial in Virginia, with a 1.5 Mbps capacity coming into the home and 64

kbps going out, using existing copper wire. About 250 consumers are participating and receive ADSL service with unlimited Internet access for approximately \$60 per month.

According to Rasmussen, "That isn't necessarily the price we will have with the service." It is, however, a price that gets Church excited.

"It sure gets the juices flowing," he said. "That's remarkably inexpensive. That's about the price of ISDN. It opens the door to all kinds of things."

For example, Church said that the Telos webcasting equipment is "too good for 28.8 modems. We're targeting the day when we can do things that are much more broadcast-like. Getting this kind of bandwidth into the 'last mile' link is an important step. Next we will

need backbone capacity to match. When that catches up, we'll be able to have excellent fidelity for audio webcasting."

Not for remotes

Lynn Distler, vice president of Comrex Corp., which specializes in broadcast audio transmission, said ADSL's benefits for radio broadcasters will depend upon the intended application.

"By its name, 'asymmetrical' is a service with a huge pipeline going one direction and a very small pipeline going the other direction," she explained. "Obviously the huge pipeline goes to the subscriber, with very little going the other way."

"That's also the way the 56 kbps modems on analog phone lines work.

WDCU Sale Raises Many Questions

► WDCU, continued from page 1

sale of a non-commercial frequency to a broadcaster of commercial programming. He said the sale would weaken the public radio system and leave listeners in the Washington area without a traditional jazz station.

"While we understand the Control Board's need to close the District's financial gap, we hope you will not sacrifice public interest in order to do so."

Lewis also wrote that NPR member stations had considered forming a coalition to purchase the WDCU license, but "could not compete with commercial broadcasters in the bid process."

In his letter to Brimmer, Coonrod noted that WDCU is the only radio station in Washington with an all-jazz format and one of the 10 stations in the United States with the largest African-American audiences.

"The sale of the station would obviously leave this minority population underserved and, consequently, would be contrary to the policy of the Public Broadcasting Act..." Coonrod wrote.

He also noted that CPB has invested nearly one million dollars in grant monies to WDCU since 1991.

"Therefore, should this sale take place, we will expect reimbursement to CPB and the American taxpayers for their investment in WDCU so that we can allocate the money to further the interests of public broadcasting."

Even with repayment to CPB, the university will come out ahead. UDC CFO Don Rickford said in March that the school hoped to net between \$5 million and \$6 million dollars for the jazz station. Any way you slice it, the university will make a phenomenal return on the \$1 it paid to acquire the frequency from Georgetown University in the early 1980s.

Some compare the sale of WDCU to the sale of WNYC(FM), which was owned by the city of New York until January (RW, March 19). The city

planned to sell the station, which resides on 93.9 MHz. In the end, that station was sold for \$20 million, under market value, to a foundation that promised to continue community programming.

About face

John Dinges, head of the radio concentration in the Columbia University Graduate School of Journalism, and former managing editor of NPR, sug-



NPR President and CEO
Delano E. Lweis

gested the public radio community might be arguing out of both sides of its mouth.



Last year, former House Commerce Committee Chairman Jack Fields proposed

allowing communities serviced by two public television stations to sell one and use the money for a public broadcasting trust fund. Many who supported that idea are now opposed to this sale. There are four other public stations in the market, said Dinges: WETA(FM), WAMU(FM), WPFW(FM) and WMUC-FM.

"I think this is a major event," said Dinges. What this sale does, he said, is set a benchmark price that could be

This means there can be many, many consumers with very little investment in the server end (such as the telephone company or Internet Web provider).

"For bringing remote broadcasts to the station, ADSL goes the wrong way," she said. "For instance, you could theoretically get fabulous audio from the station to a local car dealership, but not the other way around."

Distler concluded, "Asymmetrical services will not help a broadcaster in acquiring programming. They may, however, be a competitive threat in the delivery of programming."

If that happens, Telos will design equipment to fill the demand, according to Church.

Bell Atlantic plans to make ADSL service available to businesses after the consumer rollout. Industry analysts predict that 20 percent of consumers will have high-speed data connections within the next five years.

catastrophic for the public radio system. Also, because the majority of university stations still depend on stipends from their universities, the temptation to turn their frequencies into assets that can be liquidated will be strong.

Those who believe in public radio, said Dinges, should be concerned because the WDCU sale seems to mark the beginning of the commercialization of public radio. That isn't because CREA is associated with a commercial group, he said, but because the sale makes the frequency itself a commodity.

Lost forever

Why are non-commercial frequencies becoming so valuable?

"The issue is that there aren't going to be more frequencies available," said Lynn Chadwick, president of the National Federation of Community Broadcasters. When one is lost, she said, it is lost forever.

Chadwick used the example of KRAB(FM), a community-licensed station in Seattle. When it ran into financial trouble in the mid-1980s, the station sold its commercial frequency for \$5 million, planning to build another station in the non-commercial band. But there were no more frequencies available, and the station had to settle for an inferior signal that did not cover the whole city.

As for the \$13 million dollar price tag on WDCU, Chadwick said she was not surprised. "I've been predicting this for some time."

Chadwick said she believes the sale of non-commercial radio frequencies is a "particular issue for university licensees," rather than community licensees. Educational institutions, in this view, see their stations as an asset to be sold.

The increasing number of religious broadcasters buying in the non-commercial band is becoming a hot issue. Blackburn & Co. said the sale of WDCU generated interest from a range of groups, and more than one bidder characteristically broadcasts religious programming.

Still, the intricacies of the WDCU sale may be less important to the students of UDC, than the fact that they can return in the fall thanks to money raised by the sale of an increasingly valuable commodity, a radio frequency.

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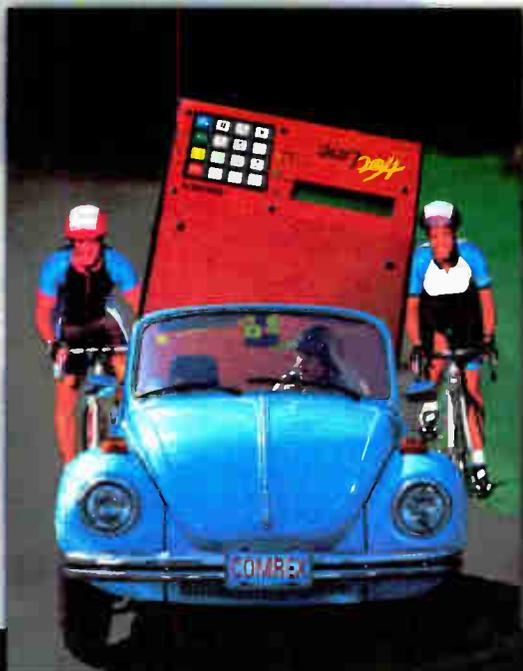


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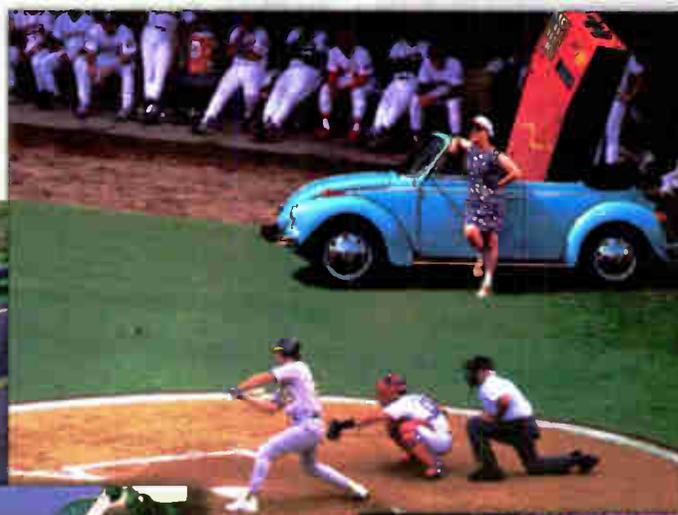
Globo Radio Network uses the
HotLine™ to cover the Tour de France



J. Claudio Barbedo, Operations Director for the Globo Radio Network in Brazil, used HotLines™ to cover the Tour de France bike race from Lyon, France, back to Globo studios in Rio de Janeiro. "I have never had a remote sound so good," he reported. "They sound gorgeous!" Barbedo said that people from other stations were swarming around his broadcast booth to find out how Globo was achieving their great sound.

WLW and Reds' Network broadcast
game on the HotLine™

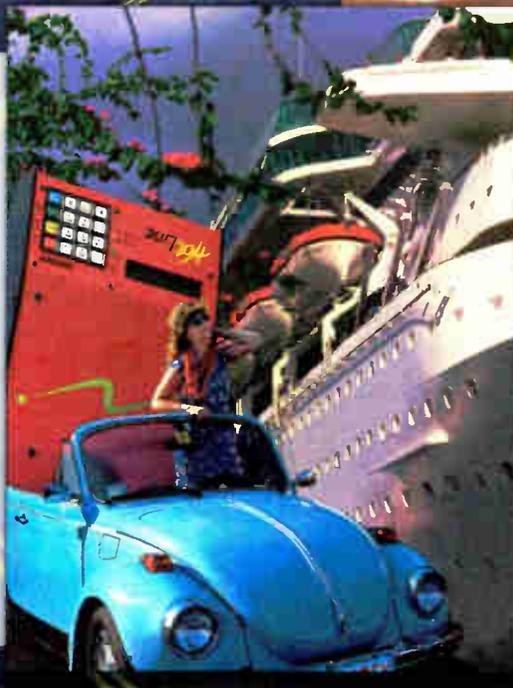
Doug Walker, engineer for Jacor Cincinnati, wasn't planning to broadcast this important game on a plain telephone line. But when the telephone company let him down and didn't get his ISDN line installed in time, he sure was glad to have the HotLine™. "The HotLine™ enabled us to save our tails when the phone company didn't complete the ISDN order," said Walker.



the phone company didn't complete the ISDN order," said Walker.

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When multiple radio stations converged in Florida, there were not enough ISDN lines to go around. However, listeners of WFNX in Boston and WRQX in Washington, DC, could not have known that the program had been relegated to a plain phone line. Marc Gordon, Chief Engineer of WFNX, remarked: "It was hard to believe audio this good was coming over a dial-up line." WRQX Engineer Dave Sproul agreed: "It was supremely easy! We just dialed (the HotLine™) and we were connected. There was no fiddling to be done."



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World Radio History

WKLS(FM) Settles With Jewell

Controversy Over Billboard Featuring Ex-Olympic Park Bombing Suspect Is Resolved

by Bob Rusk

ATLANTA An out-of-court settlement has been reached in a lawsuit alleging that Jacor-owned WKLS(FM) portrayed exonerated Centennial Olympic Park bombing suspect Richard Jewell "as an evil, sinister person."

The station erected about 100 billboards late last year, with Jewell's likeness next to the word "Freebird," the title of a 1975 song by the rock band Lynyrd Skynyrd (RW, Feb. 5).

During the Olympics, a bomb exploded, killing one person and injuring 100 others. Jewell, then a security guard at Centennial Park, was the first person to notice the package that was later found to contain the bomb.

Initially called a hero by the media, he was later identified in news reports as a suspect in the incident. Last October, the Department of Justice issued a letter to Jewell stating that he was no longer a target in the FBI's investigation into the bombing.

The station had repeatedly offered to pay Jewell for the right to use his likeness. Each time, Jewell replied that he was not interested in participating. WKLS, however, went ahead and put up the billboards throughout Atlanta.

Jewell's lawyers contended that the

word "Freebird" had a criminal connotation, implying that he had "previously been a jailbird."

The station claimed that the billboards were a "celebration of the fact that

Publicity-wise, it did more than we could have hoped.

— Pat Ervin, Acting WKLS

Program Director

(Jewell) was no longer considered a suspect" in the bombing. After the suit was filed, WKLS voluntarily removed the billboards.

RW previously reported that Jewell's attorney had asked for a "five-figure cash payment" to settle the case. But under terms of the May settlement, both sides have agreed to not reveal the dollar amount.

"We're very pleased that the matter has been settled," Lin Wood, one of Jewell's attorneys, told RW. "At this point, the parties — Mr. Jewell and the station — have indicated the hope that they will be able to return to what was once a very friendly relationship." (Following the bombing during last sum-

mer's Olympics, WKLS offered Jewell a job as a security guard at station events.)

"Even with the settlement, this was a win-win for both parties," said acting WKLS Program Director Pat Ervin. "Publicity-wise, it did more than we could have hoped for. But that wasn't our goal. We felt (Jewell) was being raked over the coals by the FBI. We were making a statement of his freedom. It just ballooned into a national story."

ABG Looks Ahead to Move, New Branch

It has been a busy summer for Audio Broadcast Group.

ABG, based in Grand Rapids, Mich., has hired Pat and Bernice Medved to operate a sales office in Tacoma, Wash. The relationship took effect July 1.

The company also announced that it would move its Michigan headquarters to a new facility, also in Grand Rapids, at the end of July.

ABG is an equipment dealer and provider of systems integration services to radio stations, with estimated sales this year of \$9 million. The Tacoma operation is its fourth sales office; the firm also has sales people in North Carolina and Southern California.

President Phyllis J. Freeman said the company had not planned to open another office at this time, until it learned that the Medveds were available. Until recently, the Medveds had worked for many years at equipment supplier Broadcast Supply Worldwide.

"We found an excellent mix," Freeman said. "Bern and Pat ... bring

additional experience of the broadcast industry to ABG, which will enhance our position in the marketplace." She called the Medveds strategic thinkers with character and integrity.

Dave Howland, vice president of sales and marketing, said the Medveds fit into the company's tradition as a relationship-oriented sales organization. He said the Medveds will work to improve ABG's international, educational and corporate sales. Company officials also said ABG wants to upgrade further its emphasis on systems integration.

Meanwhile, Howland said, ABG's new office in Grand Rapids will give the company room to grow. ABG plans to build new warehouse space at the facility soon.

Sales numbers for the new ABG Tacoma office are (888) 565-9960 or (253) 565-9360. The main contact phone numbers for ABG in Michigan will not change, despite the move.

— Paul J. McLane



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World Radio History

NEWS ANALYSIS

Grant Cuts Are Bad News for Public Radio

by S. D. Yana Davis

WASHINGTON For many public radio stations, the news from Washington this summer is bad.

The first round deals with the Public Telecommunications Facilities Program, or PTFP, which provides matching grant money for new facilities, transmitters and for equipment upgrades.

Dozens of small, community-licensed nonprofit stations will be affected if a proposed reduction or complete elimination of PTFP grant money passes Congress. Hearings that will directly affect what happens to PTFP money by House and Senate committees were set for July, according to officials at National Public Radio in Washington.

President Clinton recommended elimination of PTFP funding completely in his fiscal year 1998 budget, but NPR, along with public television, is holding out for \$29 million — a drop in the bucket by Capitol Hill standards. Congress voted just \$15.5 million last year.

Without PTFP funds, small nonprofit stations will be pressed to replace worn equipment or buy new equipment to make the transition to digital audio in coming years, according to Lynn Chadwick, president of the National Federation of Community Broadcasters, the organization that represents 100 community-licensed nonprofit stations.

"Our stations will have to spend more and more time raising money," said Chadwick. "There will be further reliance on local fundraising" to provide funds for new equipment, she said.

While no stations will go off the air, Chadwick said, "there will be no improvements (in service). Loss of PTFP funds will definitely impact our service.

"Every NFCB member station has benefited from PTFP during the last 10 years, and probably half of them during the last five, particularly Native American broadcasters."

While fundraising is "going well" for community stations, Chadwick was worried that the major "bump" upward provided by the original threat of the loss of all federal funding may fizzle, just when the smaller stations need money for equipment that may not be there if PTFP is eliminated altogether.

PTFP: the 'backbone'

NPR makes no bones about how important PTFP funding is.

"PTFP is the only capital improvements program for public broadcasting," an official at NPR, who wished to remain anonymous, said.

"PTFP is the backbone of public broadcasting. Its elimination would mean no funds to replace aging and obsolete equipment used to produce and broadcast." He cited WEVO(FM), Concord, N.H., as a typical recipient of PTFP funds. In 1995, the station received \$36,000 in PTFP money toward a total cost of \$73,000 to buy a new transmitter and equipment. Without the grant, WEVO may have had to cut staff or stop

purchasing some syndicated programming.

"At least 25 of our stations have very little local infrastructure to support them," Chadwick said. Native American stations, in particular, depend on outside funding and without it, might find it difficult if not impossible to continue operating.

While PTFP funding is a critical issue for only about a third of the country's public stations, the entire system would be affected by the loss of National Endowment of the Arts funding. Although most NEA grants support community performing arts organizations, some money goes to syndicated arts and cultural programs on public radio.

'No Endowment for the Arts?'

Cherie Simon, NEA communications director, said that the funding bill introduced in the House of Representatives earlier this year basically eliminates funding for NEA.

"The \$10 million appropriation proposed (in the House bill) is really 'close



**NATIONAL
ENDOWMENT
FOR THE ARTS**

down' funding," Simon said. She said NEA took a 40-percent cut in 1996, "far more than most (federal) agencies." Last year Congress appropriated \$99 million for NEA.

Simon said President Clinton proposed increasing NEA funding to \$136 million for FY 1998, but that "conservatives in the House, particularly the leadership," had targeted NEA for the chopping block.

"The (proposed) cut has everything to do with politics and nothing else," Simon said.

If NEA funds are cut as much as 90 percent, public radio producers can probably kiss NEA grant money goodbye.

But, according to NEA, overall funding cuts between FY 1995 and FY 1997, and a change in eligibility that eliminated individual producers, have already had a dramatic impact on NEA money pumped into nationally syndicated programming.

In FY 1995, NEA awarded 20 grants to producers totaling \$650,000. The following year, 17 grants totaling \$235,000 were made. But during the current year, the figure fell to just five grants worth \$200,000.

As late as 1996, such well-known programs as NPR's "Fresh Air" and Public Radio International's "St. Paul Sunday

Morning" and "Schickele Mix" were beneficiaries of NEA money. By 1997, only five programs, including the acclaimed "Marian McPartland's Piano Jazz," were receiving grant money from NEA.

Although most of the programs weaned from NEA support continue to be syndicated, there is general concern in the system, expressed frequently on public radio's Internet discussion group, that new programming ventures will have to rely on foundation and corporate sponsorships, where competition for available resources increasingly is intense.

"The NEA (funding) decline will have significant impact," Chadwick said. "So

many quality programs have been funded by NEA, (the loss) would be significant."

In an upcoming issue, *RW* will report on the actual PTFP and NEA appropriations passed by Congress and the specific impact they will have on facilities and programming in the public radio system.

In the meantime, not a few public radio managers, producers and engineers are waiting on more news from Washington, hoping that it will be good for a change.



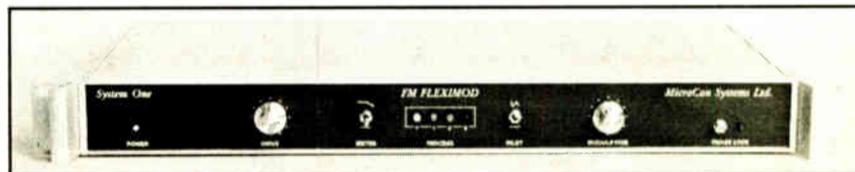
S. D. Yana Davis is a freelance writer and public radio fundraising consultant in Knoxville, Tenn. E-mail him at yana-june@usit.net

NEA Grants to Public Radio Program Producers

Producer	Program	Amount
FY 1996		
Newark Public Radio	"Jazz Set with Brandon Marsalis"	\$11,000
National Public Radio	"NPR Playhouse"; "Billy Taylor's Jazz at Kennedy Center"	\$20,000 (total)
Jazz at Lincoln Center Inc.	"Jazz at Lincoln Center"	\$18,000
LA Theater Works	Recorded live theater shows	\$18,000
Minnesota Public Radio	"St. Paul Sunday Morning"	\$10,000
John Hopkins University	"Baltimore Symphony Casual Concerts"	\$18,000
World Music Productions	"Afropop Worldwide"	\$16,000
Chorus America	"The First Art"	\$15,000
Wolf Trap Foundation	"Folkmasters from Wolf Trap"	\$18,000
WHYY Inc.	"Fresh Air with Terry Gross"	\$10,000
West Virginia Public Radio	"Mountain Stage"	\$12,000
University of Texas-Austin	"Latino USA"	\$15,000
Public Radio International	"Schickele Mix"	\$10,000
New Radio & Performing Arts	"New American Radio"	\$24,000
PA Public Radio Associates	"Echoes"	\$10,000
Symphony Space Inc.	"Selected Shorts"	\$10,000
FY 1996 Total		\$235,000
FY 1997		
ETV Endowment of South Carolina Inc.	"Marian McPartland's Piano Jazz"	\$50,000
John Hopkins University	"Baltimore Symphony Casual Concerts"	\$50,000
New Radio & Performing Arts	"New American Radio"	\$35,000
Newark Public Radio	"Jazz Set with Brandon Marsalis"	\$35,000
PA Public Radio Associates	"Echoes"	\$30,000
FY 1997 Total		\$200,000

Source: National Endowment for the Arts

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PROCESSING SOLUTIONS: The Creative Edge

'Nighttimer' FM Vies for Frequency

Nashville FM Translator Waits on FCC Ruling on Interference Caused by Station on Same Frequency

by Lee Harris

NASHVILLE, Tenn. Daytime-only AM stations aren't as common as they once were, but there are still plenty to go around. Nighttime-only FM stations are considerably harder to find, and the way things are going the only living example of the breed could soon be extinct.

WAMB-FM, licensed to Donelson, Tenn., and serving the Nashville market, is believed to be the only FM radio station in the nation authorized to operate solely during hours of darkness. The translator facility was granted to adult standards-formatted WAMB(AM) in 1992 to help the AM station cope with massive interference from Cuba. The peculiar solution of a nighttime-only FM was cooked up by WAMB owner William Barry, a pioneer FM broadcaster who found himself without an FM station while his AM station's night signal was being destroyed.

Barry says the trouble started in 1982, when the folks at WAMB(AM) started noticing a Cuban station punching through their signal on the in-studio air-monitor. "We thought this was pretty serious because we're only two miles away from the transmitter site. I took signal strength measurements, and presented them to the FCC with the recommendation that they grant me an FM station to compensate for the interference, so I could serve my market at night."

This suggestion was met with polite chuckles from the commission, but Barry persisted, writing a letter to the FCC every day for five years. Barry did have a little legislative ammunition in his pocket: a congressional directive, ordering the commission to work out solutions for broadcasters who were suffering from interference from Fidel and friends (especially after the U.S.

exacerbated the situation by firing up TV Marti in the mid-1980s).

Barry proposed a 1 kW FM facility, since WAMB(AM) was operating at 1kW nights. When the commission finally caved in, the grant was for 75 W at 250 feet, nights only. Barry decided to quit while he was ahead. "It was a port in the storm, so we took that."

Broadcasting at 106.7 MHz, WAMB-FM-1 (as it is technically known) was an instant hit, especially with listeners who didn't know that WAMB(AM) existed. "We've got some people who apparently don't know how to tune an AM radio," Barry explained. "They call up and ask, 'How come you're only on

at night?', and when I tell them what's going on, they say, 'Oh, I never put on my AM radio.'"

Barry never pushed his luck by asking the FCC if he could take his FM operation 24 hours, and all was going smoothly until last fall. Because of WAMB-FM's quasi-official status, the commission granted a license for a new FM station at 106.7 in Mount Juliet, Tenn., about 10 miles from Donelson.

One day, Barry got a phone call from the owners of the new station, WNPL(FM), telling him they were about to hit the air, and would he please shut off his station. "We turned it off, but this new station was causing so much interference to air traffic that the FCC shut them down the following week. So, I just turned my station back on. The commission never told me to turn it off to begin with."

That was in October of last year, and the interference issue has yet to be resolved, so WAMB-FM keeps plugging along at 106.7, unmolested by the FCC or the bedeviled owners of WNPL. Barry does have a contingency plan in case the interference is cleared up. "There is another frequency in the market that would work for us, and I drew an application up for it, but since we didn't get shut down I just put it back in the file."

Hanging tough

While WAMB-FM-1 may be hanging by a thread, Barry says he isn't worried about the future of his station. He figure's he's persistent enough to overcome any obstacle that might be thrown in his path. "A station operator from Florida once called me," he said. "He was having a similar interference problem and he asked me how you get one of these FMs. I said you begin by writing letter every day for five years to the FCC. That's when he hung up."

BirchResearch Blooms in Fall

► BIRCH, continued from page 1

companies have had to make some pretty strong promises to investors."

Birch compared the recent frenzy of companies gobbling up radio properties to a game of Monopoly.

"Our thinking this time around is that with consolidation, most of the companies right now are busy acquiring properties ... like a Monopoly game when you go through the first five rounds you buy everything you land on. That's pretty much what's going on and will continue for the next two to three years," said Birch.

"But we're going to get to a point in time where the game goes into the next stage, in which you put these radio stations together and consolidate and begin focusing on operations."

Birch said it won't be long before broadcasters hit a wall.

"Once you've grown the revenue as far as you can grow it, in order to grow profits at a double-digit level, you are going to

have to do something about expenses. And the biggest single line-item expense of any radio station in a top 100 market is Arbitron."

Blossoming

The timing of Birch's re-birth is no accident. With Arbitron renewals up for review in many markets next year, Birch is making a play for the deals. Birch said while he has not yet begun actively marketing the service, but come fall he's expecting to hit the ground running.

"At this point in time, we don't have anybody signed up, but we do have a lot of interest in the service," said Birch. "We've

Birch said he's not out to beat Arbitron.

had a significant amount of 'vocal' contracts. I've had discussions with groups that I believe, if we are successful in completing all the contracts in 1998 and beyond, could be in the millions of dollars."

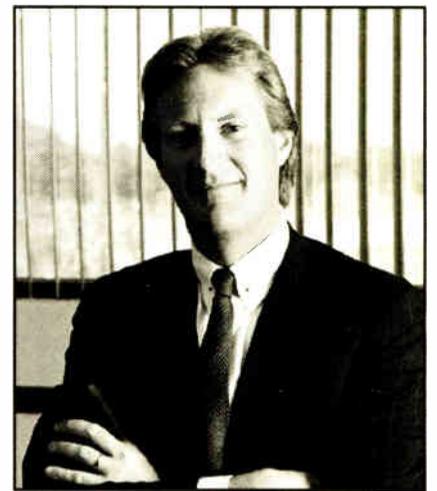
Birch said the process will be a slow one. "I envision we're going to know for sure whether or not this will work within the next 18-24 months ... If we get the foothold that I believe we're going to be getting, there will be a cascading effect. We'll probably see the service grow in popularity and become fairly substantial."

Birch said he's not out to beat Arbitron. "I envision this service as filling a niche. We'll probably be successful in maybe a couple dozen markets in 1998. Our most important goal is to be able to deliver a high-quality service to our clients at a relatively low price point, and my personal goal is to do that profitably."

The trend of consolidation in the radio industry may prove to be good news for Birch. He's planning to focus on markets where only a handful of operators control a majority of the inventory.

"And in markets like that we'll seek to get them all so that we would end up with basically an 80- to 100-percent share of the ratings subscribers in that market."

"I think the timing of what we're doing



Thomas Birch

makes a lot of sense," said Birch. "We are going to be very careful not to get ahead of ourselves, and we will be perfectly happy if we go into the first quarter of 1998 in just a handful of markets. We are going to be sure that once we get started we're doing it right."

Planting the seeds

According to Birch, his service will include all of the daypart and demographic data currently provided by Arbitron. The company is testing the potential for a variety of qualitative, life-stage consumer behavior and purchase intent information. Reports will be delivered electronically on a trailing three-month rolling tabulation base, with comprehensive reports issued quarterly and summarized trend reports issued monthly.

"We're not out to change the way radio inventory is priced," stated Birch. "Just the way radio ratings are priced."

In the meantime, Birch has announced the commencement of a large-scale pilot study measuring radio listening in Des Moines, Iowa. Researchers will be using two different types of seven day dairies: a radio-only diary and a qualitative diary that includes, in addition to radio listening, questions relative to household and respondent qualitative, newspaper and retail shopping characteristics. The company expects to have results available for industry review in September.

Arbitron had no comment on the return of Birch.

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New Markets Explored at PRC '97

by **Jacqueline Conciatore**

CHICAGO Public radio stations will soon get results of a major audience research project designed to help them thrive in an economy increasingly upheld by private rather than public support.

"Audience 98" is based largely on a re-contact study of public radio listeners identified by Arbitron in 1996, and follows "Audience 88," which profoundly affected the way program directors think about radio. Most significantly, it induced many stations to aim for consistently serving one or two audiences rather than several. "Audience 98" should help sta-

tion figure out what kind of financial return listeners give them for specific programs, according to its developers, David Giovannoni and George Bailey.

The two men introduced public radio broadcasters to the report at the Public Radio Conference in Chicago, which was held June 6-11. At that time they said they'd begin delivering data later in the month and would present their analyses of the data at the Public Radio Program Director's Conference in September.

Robert F.X. Sillerman told attendees that radio consolidation would lead commercial owners to go after public radio's audience.

Commercial competition

As owners amass more frequencies in single markets, they will feel freer to experiment with new programming for targeted audiences, he said. "You will see more intelligent voice programming on commercial stations," he said. "You have demonstrated that there is an intelligent audience out there that wants it, that you can go in-depth."

SFX owns, operates or has agreements to acquire 80 stations spread across major and medium markets.

Public service or profit center?

Bill Buzenberg, former head of news for NPR, suggested in an award acceptance speech that his old company was in danger of selling out its public service mission.

Upon receiving the Corporation for Public Broadcasting's Edward R. Murrow Award — public radio's biggest honor — Buzenberg referred to a speech Murrow himself gave to the Radio and Television News Directors Association 40 years ago.

See PRC, page 14 ▶

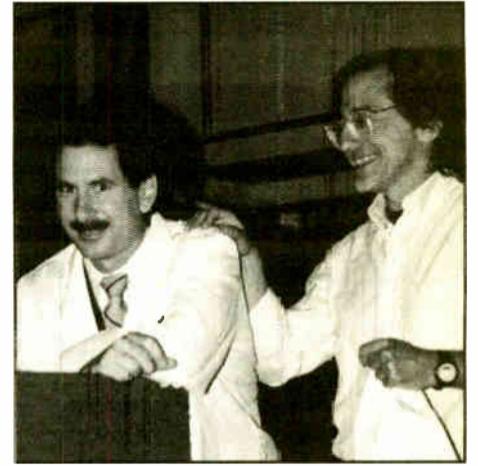


Photo by John Weber, NPR

David Giovannoni, left, and George Bailey, right, presented 'Audience '98' at PRC '97.

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So NPR is tweaking the model that would have stations pay for any given NPR show in part or in total according to the number of listener hours the program attracts to their stations. Stations were still concerned, however, that some of the largest stations, such as WNYC-FM, New York, would see huge increases that could pose significant budgetary challenges.

There may be some competition on the

Circle (2) On Reader Service Card

DARS Proponents Want Gaps Filled

by Matt Spangler

WASHINGTON The down payments are in, but the fight is not over yet.

Three months after Satellite CD Radio and American Mobile Radio Corp. agreed to pay \$83 million and \$90 million, respectively, for the right to provide satellite digital audio radio service (DARS) to the country, parties to a Federal Communications Commission Further Notice of Proposed Rulemaking (NPRM) on the technology are still duking it out. Reply comments to this NPRM, which was released along with the March 3 Report & Order initially granting the DARS licenses, were filed June 13 and 27.

The issue: whether or not to allow the companies to use terrestrial repeaters or "gap fillers," devices which fill in the gaps caused by difficult propagation environments such as urban areas by repeating the signals of DARS satellites.

In one corner is, of course, Satellite CD Radio and AMRC, who claim that effective and seamless DARS coverage can only be ensured if these gap fillers are utilized.

In the other corner is the National Association of Broadcasters, long opposed to DARS because it sees the technology as a threat to the localism of radio, who says it doesn't have technical information on how the terrestrial repeaters will work, and the Consumer Electronics Manufacturers Association, which supports an L-band solution to satellite digital radio.

The prize: a multimillion dollar enterprise that could go belly up if the commission doesn't incorporate a provision for terrestrial repeaters into its NPRM.

Questions and comments

In the NPRM, the commission has two proposals: one, that terrestrial repeaters should be used and licensed via a "blanket authorization" process, and two, that these repeaters should not be used to transmit locally originated programming.

None of the major filers — Satellite CD Radio, AMRC, NAB and CEMA — objected to the latter proposal. Both DARS proponents stress in their filings that they do not intend to originate local programming. "... CD Radio will have substantial economic incentive to deploy terrestrial repeaters only where they are highly valued by consumers," the company stated. "Adding repeaters will increase CD Radio's infrastructure costs."

Needless to say, Satellite CD Radio and AMRC feel that terrestrial repeaters are needed, and the lion's share of their comments plus those of CEMA are devoted to justifying the use of these devices. "To operate a DARS system in the frequencies the Commission allocated to the service will require terrestrial repeaters to improve the effective coverage of the system," stated AMRC.

Along with its comments CEMA filed a study by the Communications Research Centre Bureau of Radio Broadcast Technologies Research that "provides independent confirmation that the deployment of a significant number of terrestrial gap-fillers is necessary if S-band DARS systems are to realistically provide reasonable service to either urban or mobile users."

CEMA had initially objected to an S-band solution because these systems allegedly "suffer from unacceptable signal blockage rates." In reply comments filed

June 27, Satellite CD Radio denounced using the CRC study, which recommends an L-band solution, saying that it saw "no reason why the Commission should accede to these foreign interests by rejecting state-of-the-art American technology in favor of a European/Canadian standard."

NAB claimed, though, that, in their filings, Satellite CD Radio and AMRC still were not answering the right questions. The association pointed out that in its June 15, 1995, NPRM authorizing DARS, the commission said: "None of the satellite DARS applicants ... provide the necessary

Satellite CD Radio estimates that the satellite systems alone will cost half a billion dollars.

technical information in their applications to demonstrate how these complementary terrestrial repeater networks would be implemented."

Claiming that this information had still not been provided, NAB asked the commission to extend the May 15 deadline for comments on the NPRM to June 13. The association then stated in the June filing that the necessary data had *still* not been supplied.

NAB wants, specifically, "such parameters as expected effective radiated power, expected antenna gain and pattern, specific technical criteria used to establish the need for repeaters at any given location, repeater

interference characteristics both with the satellites and with other repeaters, required spacing between repeaters and other installation requirements, impact on receiver performance of co-incident illumination by both satellite and repeater signals, and the like ..."

In the June 27 comments, both Satellite CD Radio and AMRC asserted that they had provided sufficient technical information as asked for by the commission.

"The Commission should dismiss the claims of the National Association of Broadcasters ... that more information is needed about the technical characteristics of terrestrial devices, particularly with respect to the potential for out-of-band interference," stated Satellite CD Radio. "Additional information is unnecessary because the Commission's rules for satellite DARS licenses already restrict out-of-band interference and are applicable fully to terrestrial devices."

"AMRC has explained in its comments that its repeaters will operate from the same kinds of towers and tower heights as broadcast transmitters and at a lower power," AMRC's statement read.

In the June 13 filing, NAB recommended that the commission delay the authorization of terrestrial repeaters until the DARS systems themselves could be tested in the field.

Both AMRC and CD Radio asked that the FCC not require individual licensing of the repeaters, with two exceptions. The first is if the repeater would exceed the power levels and/or proximity limits as set forth in agreements with Canada or

Mexico. The second is if the repeater would violate the commission's rules on antenna structure clearance or radiation hazards.

Some financial experts say that if the terrestrial repeater rulemaking proceeding doesn't go the way of the DARS proponents, the service may be in trouble.

"If the FCC nixes (the terrestrial repeaters), they're effectively nixing this technology," said Lance Lessman of LL Capital Partners L.P.

Michael Alpert, president of the satellite communications consulting firm Alpert & Assoc., and one of Satellite CD Radio's founding members, agreed. "If (the FCC doesn't authorize repeaters) it significantly impacts their business," he said.

Even if the companies are granted the right to use the repeaters, they could face some difficulties in securing financing. "My sense is that the infrastructure spending (on the repeaters) will probably approximate about \$700 million," said Lessman. "The terrestrial repeaters are ... an expense item that were not originally envisioned in this expense plan."

"If they do (build the repeater network), it's going to add a significant additional cost to the business," Alpert agreed.

In comments filed with the FCC June 27, Satellite CD Radio estimates that the satellite systems alone will cost half a billion dollars.

Public Interest At PRC '97

► PRC, continued from page 13

"A news division should be subsidized and not made into a profit center," Buzenberg said. "(Morrow) made a plea for focusing on ideas and information needed by citizens in a democracy, no matter what the size of the audience. NPR News' own success is the result of the network's being willing to go its own way. Its reputation is the result of product integrity, not leveraging brands," he said.

Buzenberg, who resigned from NPR in March, recently accepted a post as head of news at Minnesota Public Radio (RW, July 9). He reportedly had an uneasy relationship with NPR President Delano



Lewis. NPR has hired the former head of news for the Canadian Broadcasting Corporation, Jeffrey Dvorkin, to replace Buzenberg (RW, June 25).

Prior to Buzenberg's speech, Chris Moseley of Discovery Communications delivered a keynote address in which she offered advice about marketing and building brand recognition.

NPR, in fact, has been moving its products into the consumer marketplace, with deals such as a recent one with Borders Books. Many bookstores have kiosks devoted to NPR compact discs and books by NPR talent.

HSSC Tests Draw Closer to Completion

by Bob Rusk

CLEVELAND The National Radio Systems Committee evaluation of high-speed FM data subcarriers (HSSC) has drawn closer to completion, with the conclusion of field testing in Cleveland. The tests were conducted to gather "real world" performance measurements, according to National Association of Broadcasters Senior Engineer David Layer. The NRSC is jointly sponsored by NAB and the Electronic Industries Association.

Cleveland radio stations WKSU-FM and WGAR-FM were used as hosts of the HSSC signals, which allowed for testing with two different formats. (WKSU-FM programs classical music and WGAR-FM plays country music.) Testing of two formats was necessary because of the unique technical characteristics that occur with different formats.

A modified Winnebago motor home, equipped with HSSC receivers, analog FM receivers (used for compatibility tests) and other equipment, served as the test vehicle. Tests were conducted with the vehicle in motion and stationary, and included HSSC-to-host analog compatibility measurements, as well as measurement of HSSC system message error rates that utilized 20-byte and 220-byte message lengths.

Five pre-selected routes were chosen — each characterized by a different multipath transmission environment: "urban slow," "urban fast," "rural slow," "rural fast" and "terrain obstructed."

This was the second of the three HSSC test phases. Test data will be evaluated by the three proponent manufacturers — Digital DJ, Mitre Corp. and Seiko Communications — before being released to the HSSC Subcommittee in August.

As the proponents review the data, the third and final phase — 67 kHz laboratory tests — will get underway. "This is, in some sense, a follow-up of the first phase," said Layer. "We will check to see how compatible two of the systems (Mitre and Seiko) are with the 67 kHz subcarrier. We're not expecting any surprises."

The third phase is scheduled to be completed by the end of September, when the contract to use the NASA Lewis Research Center in Cleveland expires.

Layer told RW that "it's just a matter of time" before an HSSC standard is adopted. "We've already started to do an evaluative report. We're working on a draft version of that, (but) haven't started deliberating the pros and cons of the systems or coming up with the parameters under which we could develop a voluntary standard."

A Reflection of Sound Judgment



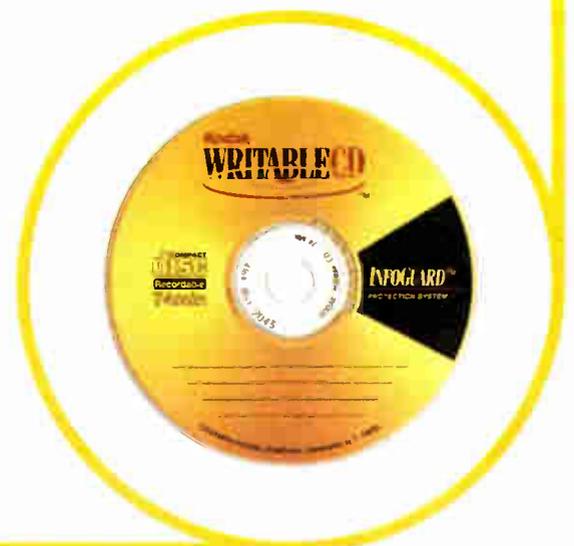
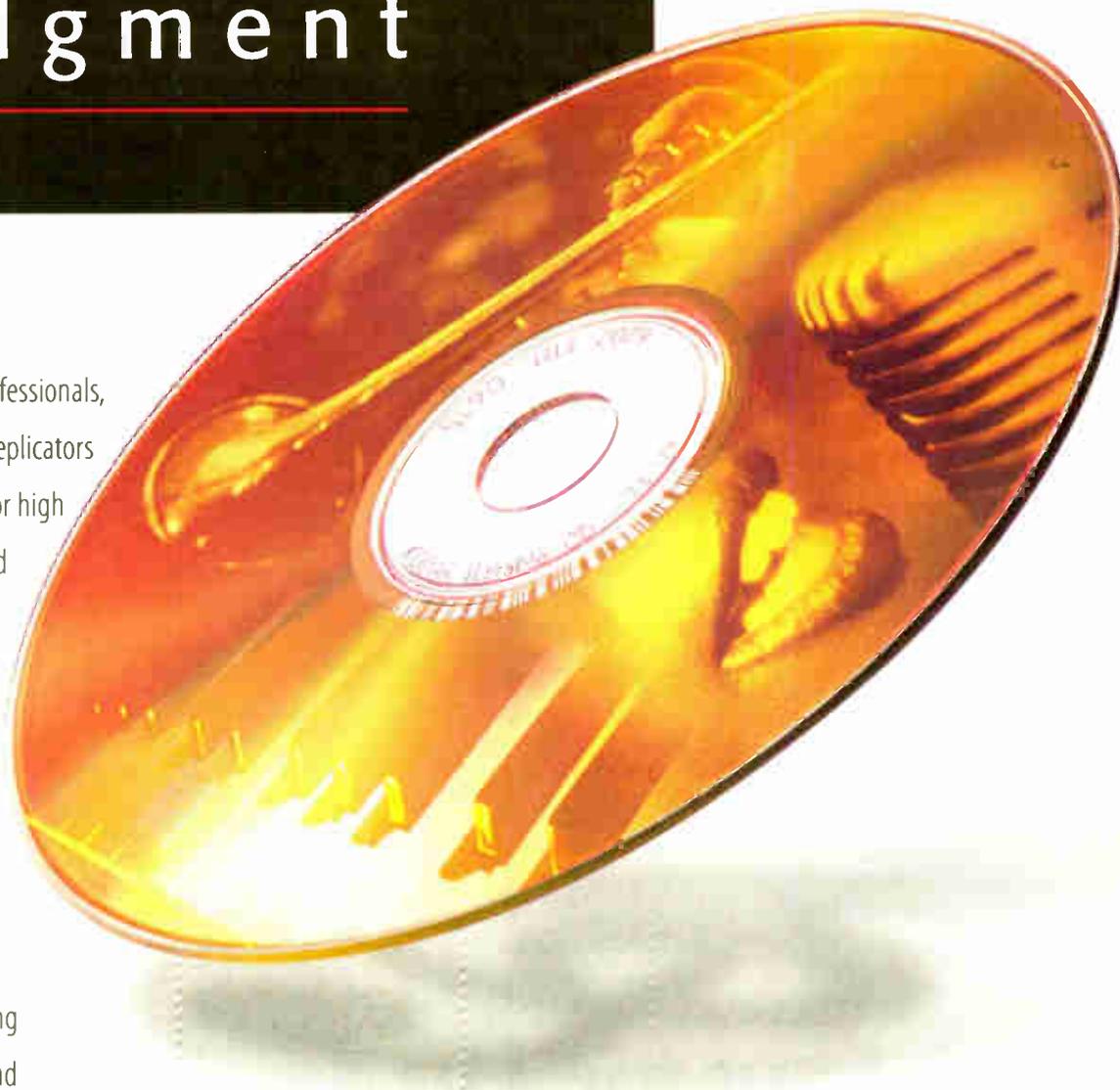
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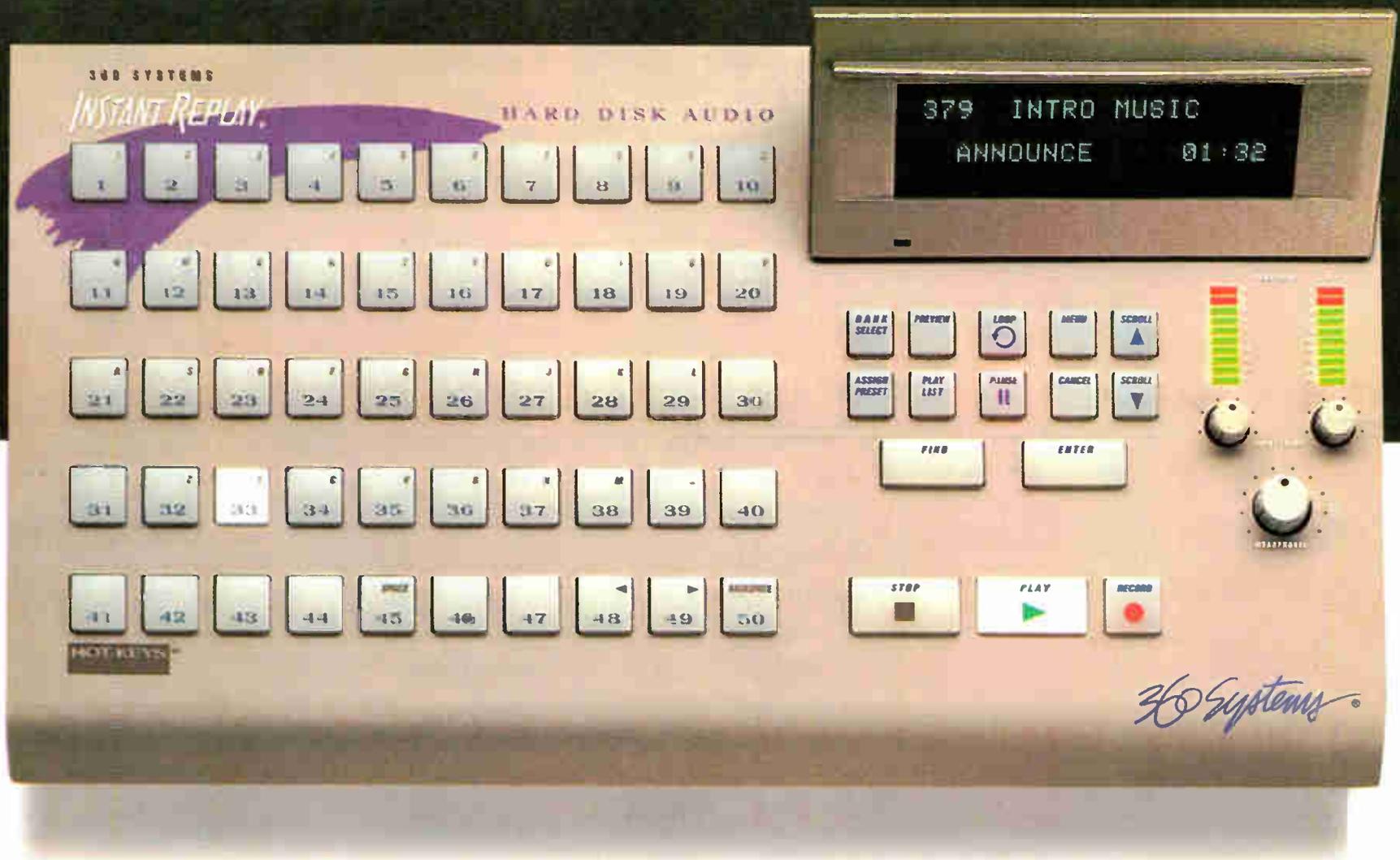
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NARTSH Showcases Talent, Equipment

Talkers Look to Cyberspace and Sports for New Markets; Producers Praised, Leaders Gathered

by Bob Rusk

LOS ANGELES Airing programming on the Internet continues to be a major topic of discussion as radio stations look for ways to attract more listeners. Making the concept more appealing, these computer-uplinked signals — heard around the world — allow stations, in some cases, to increase their advertising rates.

About 500 industry leaders participated in discussions on cyberspace and other topics at the ninth annual National Association of Radio Talk Show Hosts convention in Los Angeles.

"When you go to an advertiser — whether it's Joe's Pizza down the street or Microsoft — and say you're going to be on the Web, it gives you a much stronger (signal) to sell," said Mark Snyder, producer/host of programs that air on WMSX(AM) Boston, and over the Internet via America Online.

Snyder generates additional income by airing reruns on the Internet. "My celebrity (interviews) are archived in a site where we're charging \$5.95 for the 30-minute show and \$9.95 for the one-hour show," he said. Only about 100 people a month buy the interviews, but before he started, Snyder said, he "didn't think anybody" was going to buy them.

He stressed that most people don't want to pay for programming, "but if they want to hear a particular guest that was on three years ago, they have somewhere they can do it."

Deborah Gilbert, media director of On-Line Broadcast Associates, said "radio is not going to disappear" with the advent of the Internet. The Internet, she said, will simply allow stations with weak signals to reach larger audiences.

"That's a perfect market for you," she told the talkers who attended a "Maximizing the Internet" session. "There are perfect markets around the world, let alone the diehard talk radio fans (who) will always listen to radio."

See TALK, page 19 ▶

New and Old Equipment Helps Talkers Focus On Phone Calls, Programming Content, Good Radio

by Bob Rusk

LOS ANGELES Talk radio sounds better than ever, thanks to several new products that were featured at

this summer's National Association of Radio Talk Show Hosts convention — including one that is designed to keep "bad and boring callers off the air." This software package, dubbed TalkBack, was developed by RCS.

Intended to be used by hosts, call screeners, producers and program directors, TalkBack provides an array of features, including an instant history of recurring callers, graphs that analyze the calls and clocks that monitor time on hold and time on-the-air.

"This puts the best of all of the call-screening programs (on the market) into a user-friendly interface," said Tom Zarecki, marketing services manager of RCS.

Previously, producers and hosts often would communicate with notes held up to the studio window. Now it can be done via computer. Producer and host able to type in messages that appear on-screen.

TalkBack uses a station's existing phone system. When a caller's name is entered into the computer, a history comes up on the screen, showing such information as when the person last called and how the screener graded the call.

"You get an immediate feel about the caller," Zarecki said. "If the information shows that a guy hung up or cursed on the air, you would instantly know better than to even try to put him on the air."

Another feature of TalkBack is a variety of colorful icons that let the host know something about the caller. A light bulb indicates a caller is bright; a house shows the caller is phoning from his home.

Processing

RCS is also introducing its Tracker package, which music format stations have been using for several years, to talk format stations. Tracker can simultaneously tape up to eight different radio signals.

See EQUIPMENT, page 18 ▶



NATIONAL ASSOCIATION OF RADIO TALK SHOW HOSTS



Andrew Ashwood, operations manager at WOAI(AM) and KTKR(AM) in San Antonio, talks about the strength of sports programming.



Lynn Distler of Comrex answers questions about the new HotLine.

Some on Wall Street Concerned Over DARS

by Matt Spangler

NEW YORK Potential investors in one DARS proponent may have some short-term causes for concern about the company even if the terrestrial repeaters proceeding goes its way (see related story, page 14). The financial instrument used to bankroll the publicly traded company, Satellite CD Radio, have some on Wall Street questioning its viability.

To secure financing, Satellite CD Radio issued convertible preferred securities, which are converted from high-yield corporate bonds into equity at a date determined at time of purchase. The market price of CD Radio stock has moved up from \$8 per share before it won the Federal Communications Commission auction in April, to over \$17 as of mid-July. This has created a market value of more than \$170 million for the company, an increase of over 100 percent from its pre-licensee price.

"The net effect of this conversion is that the current stockholders could be diluted to such an extent that their equity is virtually worthless," said one New York finance manager.

"If it's all unconvertible," said financial analyst and RW contributor Vincent Ditingo, "somewhere

down the line it could be totally convertible stock, and when (the investors) call in, when they want to get repayments on the loan ... what's going to happen?"

There were also rumors on Wall Street that Morgan Stanley, who, at press time, was in negotiations to

Morgan Stanley has been kicking the tires about raising junk debt financing for the CD Radio network.

— Lance Lessman,
LL Capital Partners L.P.

underwrite Satellite CD Radio, was getting cold feet over the deal.

"Morgan Stanley has been kicking the tires about raising junk debt financing for the CD Radio network," said Lance Lessman of LL Capital

Partners L.P. Morgan Stanley would not comment on the negotiations.

Foreign ownership?

The ownership of American Mobile Radio Corp., the other DARS auction winner, has been brought into question publicly, as well. Last month, Primosphere, one of the two companies which lost in the April auctions, filed a Petition to Deny against the AMRC application. It asked that the commission inquire into WorldSpace Inc.'s minority ownership of AMRC, citing a June 30 Business Week story that allegedly implied that WorldSpace was controlled by foreign investors. Primosphere asked the FCC to "ensure that AMRC ... is not, as it appears, now fronting for WorldSpace or some other foreign investor."

AMRC promptly filed reply comments rebutting Primosphere's claims. The petition, AMRC said, "contains no specific allegations of fact sufficient to demonstrate that a grant of AMRC's application would be ... inconsistent with the public interest." AMRC also filed an affidavit from WorldSpace Assistant Secretary Donald J. Frickel asserting that all of its directors are U.S. citizens, and that 97.5 percent of WorldSpace stock is owned by U.S. citizens as well.

New Gear Talked Up at NARTSH

► EQUIPMENT, continued from page 17

More than a decade ago Symetrix unveiled its voice processor. Now comes the 628, the digital version of the company's 528, which is a "toolbox approach" to microphone processing, according to Walt Lowery, broadcast sales manager of Symetrix. It features a de-esser, compressor, downward expander and three bands of parametric equalization.

"You can set and save each parameter as a preset for the voices on the air," said Lowery, "so the announcers get custom microphone processing." The optional RC-1 remote controller lets air talent or producers quickly switch

presets — eliminating last-minute runs to the equipment rack.

"One thing that differentiates the 628 from the 528 is that we've added a release time to the compressor, which makes the compressor a lot more versatile," said Lowery. "Now you can do heavier, more intense processing; with the longer release time, it won't sound like it's been over-processed."

In addition to on-air voice processing, the 628 can be used for live-performance voice processing, analog-to-digital conversion and post-production audio sweetening.

At Gentner Communications, meanwhile, a new trio of hybrids has replaced its older line. The SPH10 is a single-line

dual-digital hybrid. The latter unit, consisting of two DH20s incorporated into one rack space, is used for two-way conference calls. Another feature of the DH22



Mark Williams interviews actress June Lockhart, a NARTSH member, as Westwood One host John Bohannon looks on.

analog hybrid, the DH20 is a single-line digital hybrid and the DH22 is a

is automatic gain control, which allows each call to be delivered to equipment at the same level.

Gentner's auto mix-minus automatically provides mix-minus by feeding the output of the mixing console to the DH22.

The company is now developing "super hybrids," according to Patrick J. Carter, a broadcast sales and marketing representative. "They will include echo-cancellation units designed for live broadcasting appli-

Talk show hosts know about ISDN. They can still keep it in their studios, but now they can throw something in their briefcase, go on the road and still do their show live.

— Lynn Distler,

Vice President, Comrex

cations, where speaker audio needs to be removed," he said.

Hot line

Released earlier this year, the HotLine POTS codec from Comrex continues to be a hot product, and was introduced to talk show hosts at the NARTSH show. Designed to serve where ISDN is unavailable, it provides two-way audio on one standard telephone line.

"It's a new technology with a high-speed modem and is not complicated," said Lynn Distler, vice president of Comrex. "You can go wherever there is a phone line, plug it in and get fabulous quality that is bi-directional."

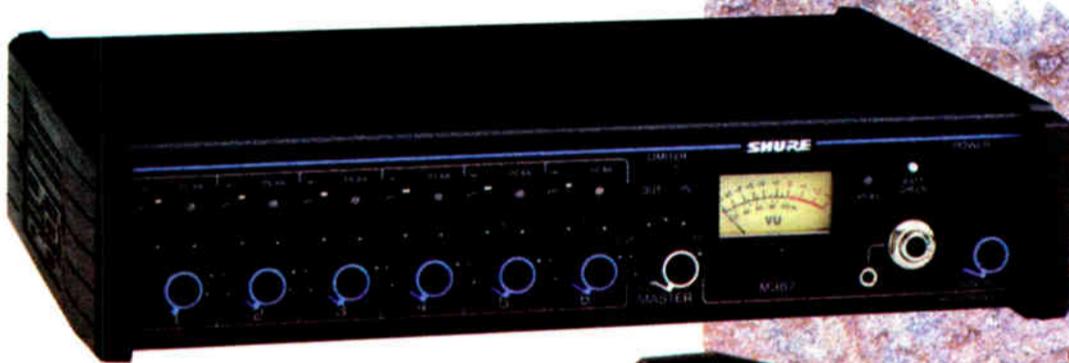
"Talk show hosts know about ISDN. They can still keep it in their studios, but now (with HotLine) they can throw something in their briefcase, go on the road and still do their show live." Distler said that while it would be ideal to use ISDN whenever possible, it is sometimes impractical to install a special circuit for a one-time remote.

With about 500 attendees, the NARTSH convention was small compared to the huge show that the National Association of Broadcasters puts on each spring. However, as Harris Broadcast sales representative Chuck Maines said, NARTSH is an important event.

"It's a niche of the business that was worth being there for," said Maines. "For its size, it was successful."

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INTERNATIONAL UPDATE

Clear Channel Buys Czech Station

by Normandy Madden

PRAGUE, Czech Republic In a bid to expand its reach, Czech station Rádio Bonton has struck a deal with U.S.-based Clear Channel Communications International.

Clear Channel is buying 50 percent of Rádio Bonton for \$1 million, but the management of the station said the total investment will probably be much higher.

The "hit music" formatted station is the market leader among 14- to 29-year-olds in Prague and central Bohemia, with 93,000 listeners daily, according to Media Projekt research results.

"We are selling half of Rádio Bonton to expand the station into a network through the acquisition of several stations in the Czech and Slovak Republics," said Mick Hawk, co-president of Bonton, the parent company of the station.

Eastern expansion

Although specifics were not available, Hawk said he had in mind "10 or 12 (stations), but nothing is certain yet."

Richard Novik, president of the international division of Clear Channel, was also reluctant to put an exact number on the size of the investment.

"We have no set budget," Novik said during a visit to Prague in late May. "We are

anxious to find good properties and we are talking to everyone, so the total investment really depends on what opportunities can be realized."

Clear Channel, which recently announced its intent to purchase the radio stations of U.S.-based Paxson Communication, already owns at least a partial interest in 166 radio stations and about 20 TV stations in the United States. It also has interests in more than 40 radio stations in New Zealand and another eight radio stations in Australia, but Rádio Bonton is the first European foray for the company.

Novik said Clear Channel is eyeing other opportunities in Central and Eastern Europe, particularly in Hungary, where a tender to privatize two seven-year concessions for nationwide radio channels is under way.

While the U.S. company does have operational control of Rádio Bonton under the terms of the joint venture, the successful Rádio Bonton program format is not expected to change significantly. However, Novik said he does want to bring new marketing and sales promotion ideas to the Czech radio scene.

Lingering doubt

Because Rádio Bonton already is part of a sales group organized by Media Marketing Services, other stations in the

network could benefit from the Clear Channel investment.

MMS Managing Director Daniel Sedláček said it was too early to comment on what those benefits might be, but Novik is already calling for "more cooperation in the radio market, especially in Prague, where there is a need for fewer, but stronger, stations."

Some competitors agree. Hank Loeser, who manages Rádio 1, the sole Czech investment of Metromedia International, said "I think it is only logical that as the market matures more networks will be formed, so I am not surprised that Rádio

Bonton wants to expand."

Novik said that Bonton is a good match for Clear Channel because it is "a strong multimedia Czech company who, like us, is interested in expanding throughout Eastern Europe."

Bonton recently retained Morgan Stanley as lead manager for an initial public offering (IPO) that will take place later this year. The IPO is expected to raise more than \$50 million for expansion in the Czech Republic, the Slovak Republic, Poland and Hungary.

But a string of past victories for Bonton does not guarantee it will be more successful in creating a strong regional radio network than its competitors have been.

Normandy Madden, a freelance journalist, reports on the industry for Radio World from Prague.

Talking About Talk

► TALK, continued from page 17

At another session. Andrew Ashwood, operations manager of WOAI(AM) and KTKR(AM) in San Antonio, said sports is the best way to reach an audience — if the target is males age 35-44.

Touchdown!

"This is the best opportunity to get to the best-looking qualitative consumer in radio — middle-to-upper income males," he said. "Sports is their one release."

Referring to syndicated sports talk host Jim Rome, Ashwood said, "We just brought Rome to San Antonio for a two-hour appearance in a parking lot outside a bar. We put almost 1,500 people in this parking lot at 4 o'clock on a hot Texas Saturday afternoon. There were as many Infinitis, Mercedes and Park Avenues as there were Escorts and Jeeps. If you focus 35-to-44 males, you'll get your bubble and you can sell it."

In addition, Ashwood said, "With sports radio you can create added value (for sponsors) through good programming — versus just throwing on spots."

Any programming will sound weak if the host is not passionate, according to Jim Carey, who co-hosts the syndicated "On the House" with his brother. Carey, replying to a question about how hosts should market themselves, said, "You have to have passion. I think it's an essential ingredient to being successful in what we do."

"All you need to do is take that passion and focus. You need to be as general as you need to be in a given day or week, and be as focused as you need to be. Your callers help you with that."

"We were once referred to by a host as generalists, because we are general building contractors and have been building for a long time," he said. "We can talk about a lot of things, but the callers have an idea of what it is they want us to talk about."

Hats off to producers

Syndicated psychologist Dr. Joy Browne, whose flagship station is WOR(AM) in New York, spoke at the "The Producers" session. She lauded these "unsung heroes" for their contribution to the success of talk radio.

"Producers are probably the single most important factor ... in that you are our voice," she said. "You're the first contact anybody has with us. You make a guest either work for us or against us."

Considering the various responsibilities for producers — which sometimes includes placating the host — Browne said, "I guarantee you, a job as a producer, if you do it well, will prepare you for life in general."

"If you like being the power behind the 'silly throne,' there's no better job. You will know everybody. You will know everything that is going on. You will feel that you have your thumb on the pulse of America. Every once in a while, hopefully you will find a talent who will say 'thank you.'"

Browne advised radio producers not to venture into television, however, even though such a move would likely mean more money. "You will find that all of a sudden you've left a position of enormous power, influence, flexibility and independence," she said.

Arrakis Studio Furniture systems are #1 with over 1,000 sold!

The Master Control Studio, shown right, is one of seven Arrakis studios in Sony's Manhattan network operation center for SW Networks.



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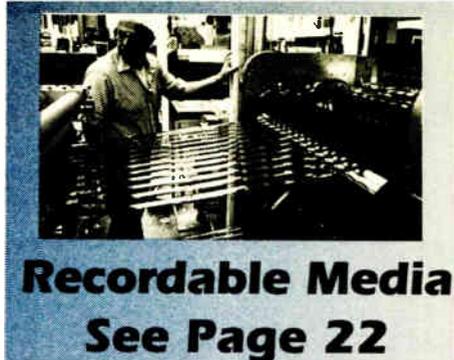
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Studio Sessions



Recordable Media
See Page 22

Radio World

Resource for Radio Production and Recording

August 6, 1997

Lexicon Boosts Your Creativity

Flip Michaels

Once you venture off the beaten track of DAW software processors, you will find a small group of intriguing rack units that promise to improve, help and accelerate your creativity.

In this group, which is loosely classified as "enhancers," I have at least four or five favorites. The Lexicon MPX 1 Multi-Effects Processor is now one of them.

Boo!

The brain-teasing opportunity I selected for an MPX 1 test drive was a beaut.

A theater company wished to advertise its production of Henrik Ibsen's "Ghosts" on Washington's classical outlet, WGMS(FM). The project came to me during those dreaded TV sweeps.

First came the hookup. Connections to the MPX 1 are via balanced XLR and quarter-inch analog and S/PDIF digital ports.

After installing the processor and thumbing through the Quick Reference Guide without any hitches, I found that my brain was ready for a big boost of creativity.

The challenge was to find something attention-getting — almost spooky — without being lame or shocky.

By pressing the Program key and turning the knob, I was able to preview 56 pre-programmed effects with up to 200 editable factory programs, search and sort functions, tempo modes including MIDI clock controls and soft parameters. Wow.

With each selection, audio was auditioned through the chain, maybe a half-second after the program name appeared. What a great feature this is — just turn

A few key taps later, I found the very sound needed to make the spot shine.

and preview. Find what you are after, alter it then edit it.

Inside the manual is a detailed list of the effects and their values. The list shows the ranges for "tweakable" mixes of

dry/wet ratios, low-cut frequencies, high-cut frequencies and degree of effect in the processed signal expressed as a dB value. Here also is where the basics like pitch, chorus, EQ, modulation, delay and reverb are found.

From true "Tape-Echo" to "Tajma Hall," "Swept Echoes" to "TV in Room," this felt much like the Eventide Ultra-Harmonizer H3000B (that's a good thing!).

With just the touch of a "Mix" and "Value" key, I was creating and saving my own home-made versions of "Flip-Flange" and "Opera-Stubbn."

Found and Lost

The MPX 1 has a great database-sorting function which made my creative journey a time-saver. This feature allows one to sort and search for programs in various categories.

In seconds I found "Ghost Flange," a

sort of whispery poltergeist effect with a reverse reverb. The only problem — or so I thought — was that it needed a little bit of flange.

With the MPX 1, I could load and layer different effect programs in combination. The limit seems to be no greater than six effects at a time. A few key taps and adjustments later, I found the very sound needed to make the spot shine.

Too bad the client did not understand how to use radio to their advantage with frequency and creativity. They rejected the spot, but strangely, I didn't feel so bad about the lost time: only 10 wasted minutes instead of 45.

My MIDI and me

Special note to MIDI freaks: with a few more key touches, the MPX 1 automatically recognizes the MIDI channel of your controller and resets you to a channel for receipt of all incoming MIDI messages.

When the knob, a footpedal attachment or footswitch is active in a current setting, you can choose to have the MPX 1 send

See PROCESSOR, page 25 ▶

DLS: MIDI Standard Moves Uptown

Mike Sokol

MIDI is one of those things that grew into something much larger than its original concept.

The Musical Instrument Digital Interface (MIDI) was developed in the early 1980s as a way to play multiple sound banks with a single keyboard. It eliminated the need to haul around banks of keyboards — each programmed for a single sound — to different gigs.

Communications

With this common communications language in place, a piano-like keyboard controller could call up all sorts of sounds that were only limited by the quality and quantity of the sound generators and samples you could afford.

But MIDI soon became much more than a toy for keyboard players. As a serial communication protocol, MIDI was quickly conscripted into controlling stage lighting, digital reverb patches and even guitar processing.

In short, any piece of equipment that could be controlled by a serial interface soon had a MIDI port added to its back panel.

And the real neat trick was that MIDI could be recorded into a computer or a dedicated sequencer for perfect playback later. An added benefit: a musical score could subsequently be printed out with the efficiency of a word processor.

But problems arose early. When a MIDI file was written and programmed in one sequencer, it sometimes failed to sound the same when played back elsewhere.

There was no guarantee that various MIDI tone generators in playback racks or computer cards would be set for the same type of sounds that were used by the songwriter and the original equipment it was composed on.

General MIDI, ten-hut!

Enter General MIDI (or GM for short). GM was a great idea: define what instrument sound each MIDI patch should be so that a MIDI sequence written on one sequencer would sound the same played back on every other brand



Something New in the DIN

of equipment.

But the GM system also presented a few problems. The sounds were defined mainly on paper, which makes description of musical timbre nuances almost impossible.

Let me put it a simpler way. Steinway, Yamaha and other piano manufacturers cannot agree on how a grand piano should sound, even though they have listened to thousands of different instruments in the best concert halls in the world. How can you expect various sound module manufacturers on different continents to arrive at a consistent sound from a simple written description?

Also, General MIDI just does not have enough different sounds to go around. There are a lot more than 128 different instrument sounds in the world. The world is a noisy place, easily containing a million different musical instruments.

The latest proposed MIDI standard is called Down Loadable Sounds (DLS).

DLS allows the actual sounds used in the original composition process to be downloaded to the playback modules when needed, and at whatever resolution necessary.

The required sounds would be embedded in the MIDI file itself, and extracted as needed. If you already had the proper sounds cached in your computer or playback modules, DLS is smart enough to recognize them and to save the download time.

DLS is even smart enough to delay downloading some sounds that are not immediately needed in the beginning of a track. It is like telling your lead guitar player he does not have to show up until the second chorus.

The playback can begin quickly, but the rest of the samples are downloaded in the background while the music commences.

There is also talk of a master on-line Internet sound library where you could download standardized sounds.

Need a sample of a Bösendorfer piano or a Stradivarius violin? Go to a DLS site on the World Wide Web and get it. Once it is embedded into your DLS MIDI file, everyone who plays back the file will hear what you, the composer, intended.

See STANDARD, page 29 ▶

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Caig Helps Resuscitate Synth

Alan R. Peterson

Some months ago, the production toy of my dreams arrived in a big box: a vintage '70s MiniMoog analog synthesizer.

Prior to my acquisition, this retired specimen spent nearly eight years stuck in an HVAC machinery room. The oiled walnut case was filled with dust, and all pots and electrical contacts to speak of were covered with a layer of crud.

Steel wool and Tung Oil took care of the cabinet; the front panel was treated with some tire-and-dashboard spray. But keyboard contacts, switches and pot wipers were a real challenge. Tuner cleaner only stunk up the house and I did not want to use an emery board on the silver-wire keyboard contacts.

Caig products are ideal for use in the station production room.

Fortunately, a care package arrived from Caig Laboratories just in time. Inside, samples of ProGold, DeoxIT and the new CaiLube MCL spray.

"The perfect test," I thought.

Riding the rails

Under the Moog's keyboard are metal rails that carry DC voltages. Depressing a key closes a contact that throws the juice across a precision resistor ladder, determining the pitch of a voltage-controlled oscillator (VCO). If the contacts are fouled, the thing simply will not work properly.

The rails and key contacts received a cleaning with a ProGold wipe, one square inch of yellow material saturated with a compound Caig designed to deoxidize and clean electrical contacts while leaving behind a layer of lubrication. The company says the compound penetrates plated surfaces, and bonds to base metals on the molecular level.

I cannot prove that without an electron microscope, but after treatment, my test with an oscilloscope confirmed each key made solid contact with no noise. The ProGold worked as stated.

Creeping crud

The gray beard of loose dust inside the MiniMoog was vacuumed out, but a layer of junk covered all rotary and rocker switch contacts, and the pots were stiff and noisy.

I tried a few shots of DeoxIT spray on the rockers. After spraying, I worked the switches back and forth, then used a cotton swab to suck up dirt and contaminants flushed out with the spray.

This is not the standard way to use DeoxIT, but I wanted to get out as much of the debris as I could. Then another shot of spray and I was done.

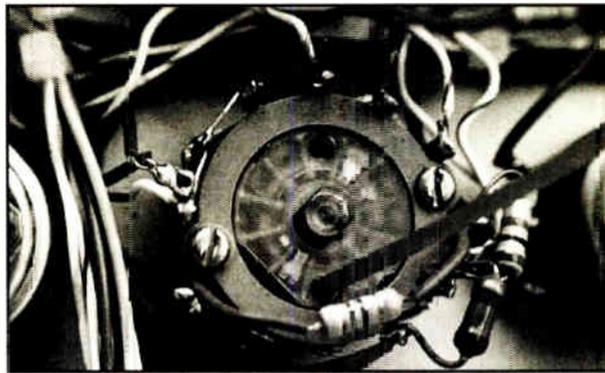
Except for a few sealed heavy-duty Allen-Bradley jobbies, all pots and rotary switches also received a dose of DeoxIT to clean things out, followed by a shot of CaiLube MCL lubricant for moving contacts.

A number of phone jacks were equally caked from age and neglect. Saturating a stiff brush with DeoxIT and working it in and out of the jacks brought them back.

No bad stuff

I am impressed that Caig Laboratories went out of its way to develop products that are environmentally safe. No CFC or HCFC spray propellants are used, and all products are non-flammable and non-toxic. The result: no more noisy, stiff contacts, and pots with several more years left to them.

Caig products are ideal for use in the station production room. A quick spritz or two does wonders for linear faders. Wipes



Caig DeoxIT is sprayed into the Moog's Waveform switch.

and brush-on compounds keep plugs and jacks clean and noise-free. Best of all, the room does not reek of WD-40 for a week afterwards.

I do have more work ahead of me. One VCO refuses to work, and thermal drift over the years has clobbered the synth's accuracy. But at last I have my own classic Moog, one which I hope will be working soon.

With products from Caig Laboratories, the restoration job is going a lot quicker.

■ ■ ■

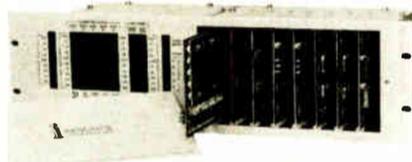
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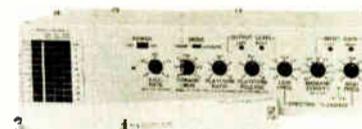


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Big Choices in Recordable Media

Alan R. Peterson

If you have paid little notice to the importance of recordable media for the successful operation of your station, take a closer look:

Jocks scramble for carts and CDs and splicing telephone calls on reel. Account executives hit the streets with cassettes of spec spots. The continuity director sorts through a shelf of DATs to find a spot that ran last fall.

The morning show intern goes home to cut tomorrow morning's comedy song on a multitrack MiniDisc recorder. The production director fires up the Zip drive to back up data from the workstation. The new jingle package from the syndication house arrives on a gold CD-R.

Get the idea? Most everything that hits the air on your station has been recorded in some way or another.

Compact discs have forced the issue of high-quality audio for broadcast, and most recordable media have been improved to match CD quality. Even humble old magnetic tape sounds better than it ever did.

Industry trends may be leading us more towards hard disk storage and related technology, but if you want more than just a one-mic show and you hope to be able to sell a spot or two to afford to stay on the air, *media* is the message.

Cart it up

Do not write off analog tape cartridge technology yet. *RW* Technical Advisor Tom McGinley has several Washington CBS/Infinity stations under his engineering wing. All still actively use carts for spot playback, bumper music, promos and bits.

"Setting up five digital studios, a server and monitors, you could drop \$100,000 for a full-blown changeout," said McGinley. "Cart maintenance charges might be only \$2,000 a year. As long as tape costs stay at \$10 a cart or below, that's a manageable cost."

Then there is the tactile feedback of a real live cart. "Jocks want something that can be held by the human hand," said McGinley. "Cart ergonomics are well-tuned and they have a level of confidence and security."

While cart companies are harder to find than before, product is still available. David Strode of Fidelipac, now a division of Amplifonix, is one of the faithful.

"Look in the back of your own paper," he told *RW*, "and what do you see in the console ads? *Cart machines!* They are still out there."

A big reason for the longevity of carts is their simplicity and durability. Strode said, "Flip one across the room and it still works. Try that with a CD or hard drive."

Fidelipac stopped manufacturing tape for cart reloads, but maintains a stockpile of three to four years and still sells Fidelipac carts. "It's still worth staying in the business," said Strode.

Nick Krassowski of Audiopak Inc.

boasts, "We are going to make the last cart that will be made." The company still makes Audiopak carts and now

stations prefer jingles on CD-R. It is a good combination of high fidelity and durability."



Carts, still alive and kicking (WARW-FM, Washington).

manufacturers the no-moving-parts "ITC Cart," formerly the ScotchCart. Much of Audiopak's output these days is in leader tape and frictionless liners for the analog cassette market.

Even the cart repacking industry remains busy. Jack Jackson retired from Capitol and opened Cartridge Express in Washington state. His company reloads carts for many stations, including several in Chicago and Los Angeles.

Oh say, can you CD?

Jackson said, "Stations are playing music from CD, but they still use carts for commercials." Jackson notes much of his business is in repacking :20, :40 and :70 carts as opposed to longer lengths used for music.

While most stations, as a rule, do not



Recordable CD From Maxell

burn their own recordable compact discs, archival material such as client jingles and seasonal promo beds and effects often are stored to a CD-R. Manufacturers include Apogee, BASF, HNB, Maxell, Matsui, Quantegy and Sony, among many others.

Radio jingle producer Ken Deutsch said, "Ninety percent of our client

In Deutsch's mastering studio, a SADiE system is tied to a Yamaha one-off CD burner. With a few keystrokes, a CD-R is authored right in the machine.

On request, Deutsch will mix down to DAT or reel; the latter is especially favored by non-radio collectors. But a recordable gold CD is the preferred medium on which Deutsch sends out finished work.

"Another plus that CD has going for it," said Deutsch, "is that it

manager for Apogee, described the performance features of his company's DAT product.

"We have a specially formulated resin shell that resists thermal warping. Good long-term archivability. The materials we use far exceed error rate expectations for an audio DAT," he said.

The format continues to be successful and supported by a number of manufacturers. Player/recorders in all price ranges come from companies such as Denon, Sony, Tascam, HNB, Panasonic and Fostex, to name only a handful. The tapes themselves are manufactured by many of the same companies that produce other media.

Analog/digital hybrid media include tapes made for the Alesis ADAT format and for the Tascam DA-88 and DA-38 modular multitrack decks. The original intent was to use conventional consumer VHS and 8mm tapes as digital media in these machines. Over the years, new formulations minimize data errors and can stand up to lots of shuttling and cueing. Most of the top manufacturers make ADAT- and Tascam-compatible media, with Apogee just joining the fray now.

Mighty Mini

MiniDisc (MD) also survived a shaky start as a consumer format to become a viable alternative to carts and four-track "personal studio" media. The actual MD resembles a miniature CD inside a hard shell and comes configured as either an Audio MD or a Data MD; the latter is appropriate for the digital four-trackers.

Sony, the developer of the format, has a complete line of MD products including studio "cartridge" decks, multitrackers and "prosumer" units. Denon and Otari also support and manufacture MD machines. Portable multitrack studio

machines are also made by Tascam and Yamaha.

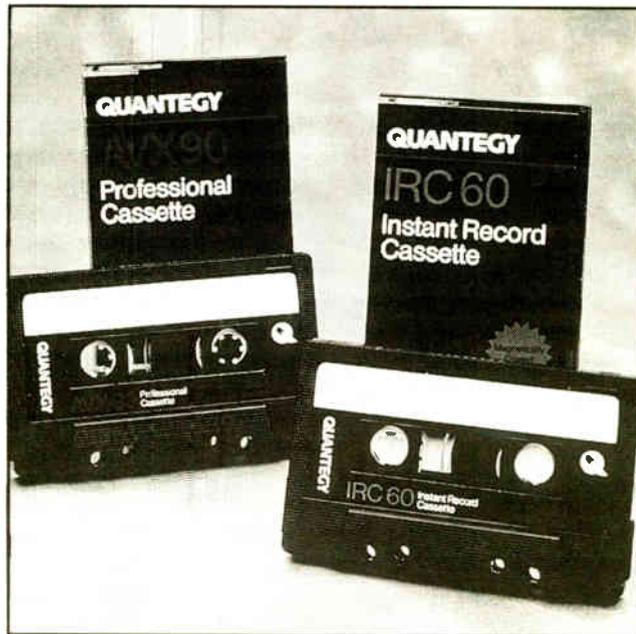
Stations such as WRCY(FM) in suburban Washington use MD to capture, cue and play back traffic and weather updates in morning drive and to record telephone call-ins.

Less often used in broadcast is the Magneto-Optical (MO) medium. Fairlight USA has offered a multitrack MO film dubber for awhile; the high-end Sony PCM-9000 is available for two-track mastering and critical recording.

Recently, Otari released the DX-5050 two-channel portable MO recorder, the company's newest product to continue the "5050" legacy. The Otari name's longtime association with studio workhorse products could bolster MO's role as a viable alternative recording media for radio.

Surprisingly, common computer floppy discs can be pressed into service as digital audio storage media. A stock 1.44 MB disc is good for about six seconds of uncompressed 44.1 kHz audio, but on the Fidelipac DCR1000 digital cart machine, a floppy becomes

See MEDIA, page 24 ►



Quantegy's Line of Analog Cassettes

is a universal format. No tape is going to sound the same from one machine to the next. The electronics might be soft, the heads out of azimuth. But a CD will either play or it won't."

DATs all, folks

Digital audio tape (DAT) took a beating as a consumer format during the copyguard wars of a few years ago. It does, however, remain a popular archival format for radio because of its

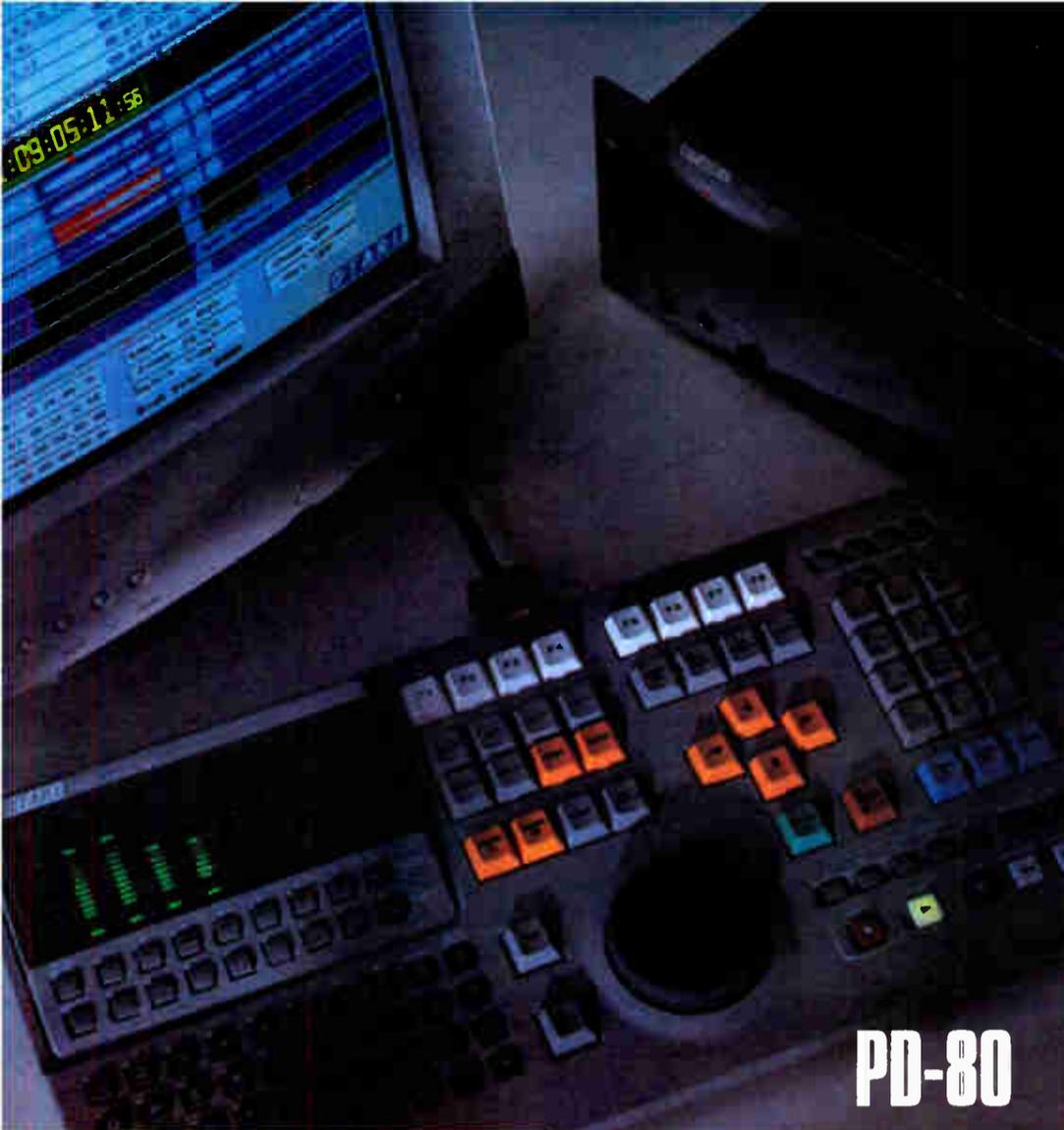
price and performance.

Patricia Byrne, marketing manager of professional products at Maxell, said, "R-DAT tape has increased 15 percent over three years." It is easy to see why: A 30-minute reel of quarter-inch tape can run as much as \$20, whereas a two-hour DAT will cost about \$10.

Richard Wilson, media products

Digital Recorders

by Otari



PD-80



DX-5050

For decades Otari has pioneered the art of analog Multitrack Recording. With hundreds of thousands of machines installed worldwide, Otari is clearly the benchmark in recording technology. In this spirit of innovation a new generation of leading edge Digital Recorders has emerged.

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 Fully self-contained, with dedicated controller and no external computer required.
 Easy to edit. On screen waveform display with DSP
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PD-20

2 Channel MO Recorder/ Editor
 Comprehensive editing and DSP functions
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PD-20



PD-80



DX-5050

Circle (188) On Reader Service Card

World Radio History



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Media Decisions for Your Station

► MEDIA, continued from page 22
 a 39-cent equivalent of a :70 stereo cart. The DCR1000 can be configured for MO discs as well.

Old pal

Finally, good old analog tape is still in there slugging away. Although not as prominent as it once was, analog reel and cassette tape sounds the best it ever has, due to modern manufacturing methods and formulas.

National Public Radio, among other entities, continues to use analog reel tape, which sounds every bit as good as anything that goes out over the NPR net. And the cry, "I need a work reel!"

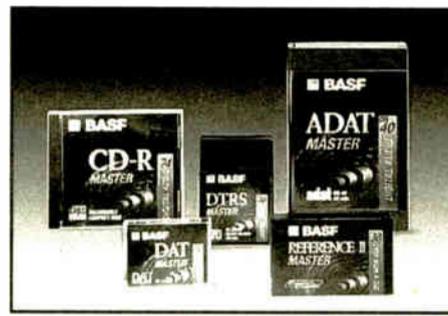
is heard at thousands of stations across the country every day.

Those big boxes of Irish Brand reels we all knew and used stopped coming to the station a long time ago. You haven't seen a box marked "Norelco Philips" in ages, and those Ampex and Scotch pancakes will soon give way to packages marked "Quantegy."

The Ampex tape division restructured into Quantegy last year, then purchased the 3M Magnetics division. The company now manufactures Quantegy 408, the direct replacement for Scotch 908.

Even though tape sales have taken a hit, Quantegy clearly is not ready to kill the lights and leave. Director of Audio

Marketing Steve Smith said, "We're glad about the strength in radio of open-



A Big Selection From BASF

reel tape. Our business in reels has declined about 35 to 40 percent, but we

are still well over \$10 million."

Analog cassettes continue to be the medium of choice for airchecking, demo spots for sales calls, news-gathering on the classic Marantz shoulder-slingers and, yes, sending out audition tapes for that next DJ job.

Because cassette tapes can be purchased from high-end manufacturers or three-for-a-dollar at department stores, quality can range from excellent to yucky. And stations have been known to use both.

The choice of media used at your sta-



Digital Products From Apogee

tion is dependent on demands from all departments: sales, engineering, production and programming. There are many solutions and many products available.



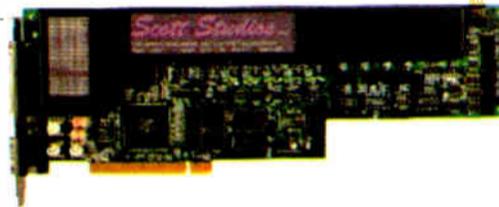
Alan R. Peterson is technical editor of RW.

Scott Studios' Breakthrough: Uncompressed Digital Audio at a Compressed Price!

Your station can make the quantum leap to *uncompressed* digital music from hard drives! *You'll hear the difference* in quality from this superior system!

Best of all, Scott Studios' *killer* new linear audio *costs no more* than compressed systems! Scott Studios is the *only* company playing *four* great sounding *uncompressed* digital stereo streams at 24kHz, 32kHz, 44.1kHz, 48kHz or any mix *with overlap* and *while recording!* No other system uses the sizzling hot new Motorola 56301 DSP chip and *32-bit PCI bus* audio cards! *Only* Scott Studios' system prevents dueling algorithms and eliminates compression artifacts with linear audio *at no extra charge!*

You also get a fail-safe watchdog for *unequaled* reliability, a 6x6 preview switcher that lets you hear ends of spots or songs while the middle is on-the-air, superior headroom, General Purpose Interface, digital ins and outs, optional timing stretch & squeeze, optional MPEG or APT, and more.



Scott Studios exclusive new 32-bit PCI audio card plays up to four CD quality uncompressed stereo channels while recording!

Good Spot Box



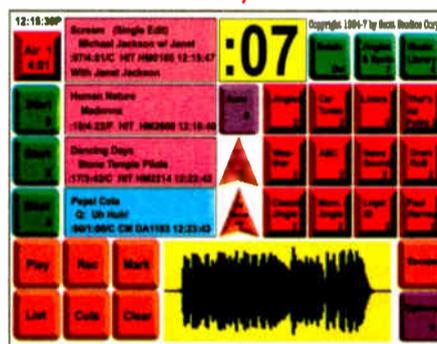
Scott's new digital Spot Box triple-deck "cart" replacement delivers awesome *linear* CD quality sound. Spot Box is the *easiest* digital system to use! There's only one screen, so your jocks always know what's happening. At the left, three players give you legible labels, countdowns and End-of-Spot signals, with big well-lit buttons that show what's playing. Even though it uses Windows 95 or NT, Spot Box works like carts, *not* a computer. At right, there's a "rotary cart rack" that lets you pick and play any recording by number or name. Or, number keys at the bottom load your cut quickly. As options, Spot Box can automatically load logs from traffic by diskette or LAN. You can record spots and edit phone calls at the right of the screen. Starting at \$5,000, Scott's Spot Box is so affordable many stations can even put two in an air studio for redundancy.

Better AXS



AXS (pronounced ax'-cess) is radio's premier digital audio system for satellite or news/talk formats, CD automation and cart replacement for live jocks. AXS gives you instant play Hot Keys, log editing, music on hard drive, Power Fill, satellite jock substitution, link to NPR's SOSS, an easy-to-use Real Time Scheduler, the industry's simplest and best net catcher, and an optional production or phone recorder and editor in the air studio. Scott Studios offers AXS satellite systems as low as \$7,500 complete. With Spot Box, AXS or a Scott System, you can get 24 hour, 7 day support from Scott's 45 person staff—the biggest (and best) in digital audio! With several of these systems, any can record a spot once for all! Also, for spot or music on hard drive with typical playlists, you choose whether to get *uncompressed*, MPEG or APT digital audio cards at no difference in price.

Best Scott System



The Scott System is radio's top-of-the-line for digital music on hard drive. You get instant play Hot Keys, touch screen music libraries for instant requests, log editing, built-in phone recorder, pre-recording Voice Trax in context, and production that imports from any WAV digital multi-track. Scott also offers an *invincible* seamless redundancy option. It's self-healing, so regardless what happens, your spots and hits just keep on comin'! Good. Better. Best. Scott Studios' three digital systems can be tailored to *your* needs and budget. Call or E-Mail info@scottstudios.com for details.

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Circle (132) On Reader Service Card

New WAV Standard

Audio WAV files can now "remember" what they are, thanks to a new labeling specification created by Broadcast Software International (BSI) the Arizona-based digital automation company.

The BSI labeling standard allows information such as flight dates, artist, liner notes and ad copy to be embedded in a WAV file. Until now, a separate outside database had to contain the descriptive information.

"This specification changes that," said BSI President Ron Burley. "Files can be transferred from system to system and the information goes with them."

The new standard lets agencies e-mail spots with run instructions included and allow record companies to embed liner notes with the performance.

The BSI labeling implementation is non-proprietary, so other developers can implement the technology without paying licensing fees. The compatibility ensures a labeled WAV file can still play on any Windows system. The specification is posted on the BSI website, www.bsiusa.com

"Anyone in the broadcast industry will be able to effortlessly exchange audio data with anyone else," said Burley. "We hope all developers will support it."

To date, only a special BSI version of the Syntrillium Software "Cool Edit" editor is capable of embedding text data, which can be read on several BSI products. A special bundle of Cool Edit and the Audio Data Editor can be downloaded from the BSI website.

— Alan R. Peterson

PRODUCER'S FILE

End Emotionally Bankrupt Copy

Ty Ford

As land-based radio broadcasting prepares itself for the onslaught of satellite-delivered Digital Audio Radio Services, one of the many considerations will, we hope, be *content*.

Even if CD Radio's projection of 30 music channels and 20 news channels is more optimistic than what they can actually provide, that is an awful lot of commercial-free programming. Whether the public will actually go for the monthly subscription fee of \$5 to \$10 remains to be seen.

Of course, the only ones who will really have to worry are the radio operations that cannot afford the shift to DARS. Those who can will likely lobby the FCC to allow them to repurpose the entire AM and FM bands for something more profitable.

Good old days

The radio-must-be-local-to-be-successful position was valid when this country was more provincial. It lost a lot of its charm when we decided we were part of a global community. And over time, network broadcasting from Arthur Godfrey to Howard Stern has proven otherwise.

Besides, in the future there will be enough transponders floating in space to provide regionalized and even market-specific content.

Whether you are a land-based broadcaster planning your retirement to coincide with the shift to the "bird," or working at one of the deep-pocket operations

planning to soar with the eagles, keeping listeners through spot breaks is still a hot topic. It accounts for up to one quarter of every hour.

The content of commercial copy — or continuity, as it was once called — is long overdue for a renaissance. The vast majority of commercial copy on the air is emotionally bankrupt, and has been for some time.

I think we can agree that if we hear one more spot about "friendly, personal service" from "your good friends at ..." who have "dropped their prices just in time for ..." and who want you to "Wait, because there's more good news about savings like these that can't be beat," we will collectively yak. This kind of copy is the litter of the radio landscape, and it undermines the very credibility of the AM and FM bands.

Nobody — I repeat, nobody — believes any of this stuff. From a marketing perspective, this kind of continuity can be justified (notice I didn't say "tolerated" or "condoned") when it is used by a sponsor who buys really big schedules. Then the content becomes audio wallpaper, taking a back seat to the number of impressions created by the density of the buy.

Blurring the difference

The problem with putting wallpaper in your spot breaks is that the line between wallpaper and useful information becomes blurred in the ear of the listener. No one really knows exactly where

the wallpaper tuneout threshold happens within a spot break or even within a spot.

It is akin to saying, "I know the garbage disposal is on, but maybe if I don't stick my hand in too far, I can dislodge that chicken bone that's jamming the razor-sharp blades without turning off the power."

An overly graphic comparison? Perhaps, but it made you feel something

Wallpaper copy makes you feel nothing and puts the listener to sleep.

and *that's exactly my point*. Wallpaper copy makes you feel nothing.

Wallpaper copy puts the listener to sleep. Yelling really loud when delivering wallpaper copy does not help either. Neither does a battalion of sound effects and hyper-flanged, reverb- and delay-swamped voice tracks.

McLuhan's comment that "the medium is the message" may have been right for the times, but audiences are a lot more experienced now. At best, they tolerate it. At worst they tune out.

So, what is the answer? Getting back to the chicken bones and sharp blades, it is about connecting emotionally with the listener. Copy that pushes the right listener buttons will keep them from punching away from your station. But words are easy, emotions are more difficult.

Unwrapping the death grip that price and product copy has on the copywriting

world is also not an easy job. Sure, listeners want to know the bottom line, but they also need an emotional component to motivate them to "feel" like buying.

Telling them that the sponsor has friendly sales people, a huge selection and more does not address their emotional needs. It doesn't even give them an indirect "warm and fuzzy." That is because those phrases are ridiculously worn out and because revealing that the salespeople are friendly only describes *their* emotional state. It does not address the emotional state of anyone listening.

Tell me how you feel

Effective emotionally-connected copy starts with an understanding of how the listener feels. It continues through what he or she may be convinced is needed and moves on to how the attributes of the product or service meets those needs.

The process is more effective when it is driven by the customer's needs and emotions, and less effective when it is driven by too much inventory.

This is not to say that people are not attracted to the "tragic circumstances that forced us to drop our prices 50 percent." We are drawn to that, just as we are to traffic accidents. But, again, using only the "please take advantage of our deplorable circumstances" ploy is a minimalistic attempt at making an emotional connection. We can do better.

Radio listeners already communicate emotionally with the programming of the stations to which they listen. All I am asking is that the copy in commercials use the same or similar emotional connection.

When you drop the connection, you drop the listener. Get it?

■■■

If all the copy Ty Ford has written or voiced was placed end-to-end vertically, the sun would turn it a crispy golden brown. Fortunately he's coming out with a tangy new dipping sauce for these morsels.

Ty's book "Advanced Audio Production Techniques" is available from Focal Press. Download his voice demos from FTP.Jagunet.com/pub/users/tford

Processing Power From Lexicon MPX 1 Unit

► PROCESSOR, continued from page 20
MIDI controller messages whenever you make any adjustments. This makes it possible to record real-time control of MPX 1 effects with a MIDI sequencer. This is a simple but powerful way to automate effects.



Lexicon's MPX 1

executing any action, you can press and hold that button down. While holding it

down, an explanatory message runs across the front of the unit.

Other neat features include Tempo settings expressed as rate or beat values, A/B (left/right) control, MIDI clock and sleep-mode preferences.

Grand wrap-up

In conclusion, I think the MPX 1 is an ideally useful rack multi-effects processor at an affordable price. For \$1,299, you can satisfy the production director's wants, the chief engineer's needs and the general manager's bottom line.

■■■

For information on the Lexicon MPX 1, contact the company in Massachusetts at 617-280-0300 or circle Reader Service 108.

Flip Michaels is production director for WGMS(FM) Washington. Reach him via e-mail at fmichaels@wgms.com or visit his home page at members.tripod.com/~FMichaels/

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DIGITAL DOMAIN

Analyzing the Next Wave of DAWs

Mel Lambert

It sometimes surprises me how technology places in front of us an exciting spectrum of creative choices but, at the same time, our appreciation of the user benefits may take a while to sink in.

Nowhere is this very human trait more obvious than in the thickly mired world of digital audio workstations (DAWs).

You may recall during the past several years, I have made something of a study of the balance between user features and functions offered — purportedly or otherwise — by system manufacturers, and the reality of

our sometimes-reluctant acceptance of new innovations.

In other words, what we see in the glossy literature, and hear from the smooth-talking lips of the sales staff, may not bear too much of a similarity with reality.

Focus groups speak

It is not that workstation manufacturers are pulling the wool over our eyes. I have worked with enough of them during consulting projects to realize that the majority are well-intentioned and diligent in their aim to put the best in front of their customers. Sometimes, however, it is just a matter of

overlooking the obvious.

Several years ago, a colleague and I organized a series of focus groups that looked at just this subject: Does the reality of DAWs match the perception of targeted users? As we found then, all too often the market's appreciation of what these firms are offering lags behind the marketing message.

To put it another way, in spite of coherent messages describing the creative and sonic advantages of the current offerings, the majority of potential users often fail to understand these subtleties fully, and all too frequently are suspicious of manufacturer claims.

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Now you can have a complete ISDN codec, mixer, headphone distribution amp and ISDN terminal adaptor in a single box. Introducing the new RoadRunner from MUSICAM USA. RoadRunner gives you all the best algorithms, not just one, for compatibility with the codecs you already have. With MUSICAM, Layer II, Layer III and G.722 you can have CD-quality 20kHz mono over one ISDN line, 15 kHz on a single ISDN "B" channel, or the shortest delay with any G.722 codec.

Of course, that was then, this is now. Or is it?

Recently, we have the opportunity to carry out another series of DAW focus groups, looking at the same criteria. As we discovered, the challenge facing manufacturers is multifaceted.

The majority of buyers are looking for DAW makers to help them by designing products that give more bang for the buck, products that present more power that can be accessed intuitively, using the skill set they already have.

Just as important, customer service should be fast, accurate and easy to access for customers. Too many manufacturers wait until their customers inform them about a problem before informing them of an upgrade or fix. The result is frustration.

There are companies that are more proactive, announcing software updates and/or upgrades to registered owners in a timely fashion, possibly via direct mail or a website.

'Please hold ...'

Customer service still remains a bone of contention. Users really do need immediate attention from a knowledgeable person. Because the majority of such users are calling the manufacturer in the middle of a production session — when the system refuses to cooperate — all work has ground to a dramatic halt until the problem is fixed. And such service is expected from a DAW manufacturer, not retailers.

With technology advancing exponentially, most of our participants realized that local dealers and representatives often are pushed to remain current with new computer-based technologies.

But a toll-free number with voice mail at home base is no solution. Users need a reassuring voice as soon as possible, a response from an individual who will understand the problem and, we hope, offer a quick solution.

Here is a cop-out we heard time and time again: Manufacturers suggest that the problem is down to Apple, IBM, Compaq or whoever made the host platform, if they encounter a potential hardware-based problem.

Those computer firms just make the chassis and engine; DAW manufacturers are the ones making the transmission, body work, upholstery and steering mechanism. They should not pass the buck onto a hapless customer.

DSP, easy as A-B-C

Another hot topic was flexible, on-board DSP functions that extend the user's creativity. The radio-production market can benefit from a powerful set of processing tools, including parametric/graphic EQ, dynamics, reverb, time compression/expansion, de-clicking and related processes.

Such DSP-intensive operations should be made available via simple-to-install plug-ins or similar solutions. And several participants need to access more than one DSP function at a time; for example, it can take a while to apply an EQ curve, time-compress and then maybe re-dither the output.

One leading brand of Mac-based workstation often is hampered by lack of available DSP resources or pipelining data files between processing cards via a multiplexed interconnect bus.

While screen-based, "software" mixers provided lots of useful, potentially automated functions, we discovered that many of our participants still rely on conventional mixers or a similar-looking control surface

See WORKSTATION, page 29 ►

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PRODUCT GUIDE

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Radio World, c/o Studio Sessions Editor, P.O. Box 1214, Falls Church, VA. 22041

Littlite for Audio Racks

Littlite has the new Raklite RLX, a rackmount light source for equipment



racks and mobile disco boards.

The 1 RU chassis has two XLR jacks on the front panel to accommodate dual Littlite XLR Series detachable gooseneck lamps. A front-panel dimmer control lets the user adjust the brightness of the 5W halogen bulbs.

The Raklite RLX is designed for use by DJs, sound and lighting engineers and technicians who need a directional light source in tight rack spaces. Suggested price is \$89.

For information, contact CAE Inc., in Michigan at (810) 231-9373 or circle Reader Service 186.

Altimix begins with 48-track recording and editing, expandable to 128 channels of disk recording with multi-user partitioning. Features include automatic record "take" management, 50 levels of Undo and 48 track drop-ins with instantaneous playback monitoring.

Four-band EQ and three-band dynamics processing are included in every channel. Scrolling waveform displays and multi-channel reverbs round out the audio tools. Additional features make the Altimix a capable audio-for-video mixer/editor.

For information, contact D. Pagan



Communications in New York at (516) 692-8262 or circle Reader Service 212.

Timecode Calculators

Calculated Industries Inc. makes backtiming decisions in the studio easier with two new products: Frame Master II and Time Master II, introduced in April at the NAB Show.

The Frame Master II is an advanced timecode calculator for film and video production and for anyone using SMPTE timecode in audio production. The calculator converts between all standard timecodes, including 30 non-drop-frame, 30 drop-frame, 16 and 35mm film speeds.

The Time Master II converts between H:M:S and decimal time and can add, divide, subtract and multiply in all formats. The Frame Master II is \$129.95 and the Time Master II is \$49.95, direct from the manufacturer.

Calculated Industries also makes specialty calculators for converting scales from maps and charts, and an NEC code-based device for electrical contractors.

For information, contact Calculated Industries in Nevada at (800) 854-8075 or circle Reader Service 60.

SSL Altimix

The Solid State Logic Altimix combines the SSL DiskTrack and Hub Router technology with high-speed proprietary digital processing. The result is a powerful audio post-production tool with future applications in multi-format media.

DOD Personal Vocal Effects

The new VoFX from DOD Electronics is a vocal effects processor that combines a mic preamp with digital effects for vocalists and announcers.



While the VoFX is designed as a live-performance "stomp box" device for singers, its many special effects make it a versatile processor for studio use. Stock effects such as reverb, delay, compression, flanging and phase shift are joined by several unorthodox processes such as ring modulation, vocal distortion and the DOD "Pixellator."

Thirty factory presets and 30 user-definable programs allow up to seven simultaneous effects. An XLR connection on the back panel accommodates nearly any kind of microphone. The foot pedal arrangement lets the user switch programs instantly for real-time changes during performance.

For information, contact DOD Electronics in Utah at (801) 566-8800 or circle Reader Service 34.

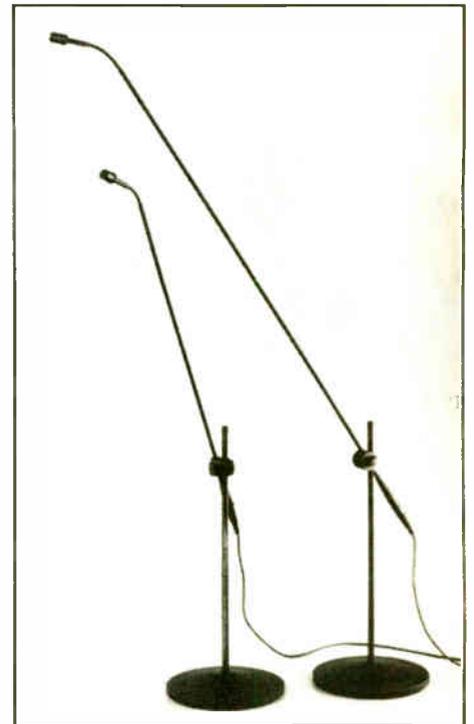
Flamingo Mic Stands

TGI North America introduces the Flamingo series range of floor stands for Brüel & Kjær 4023, 4033 and 4053 compact microphones. TGI says these mic stands are appropriate for broadcast uses in concert halls and other locations where B&K mics are in use and must remain unobtrusive.

The three standard floor stands in the line include the FGS4000 Flamingo Grand; the FGT4000 Flamingo Grand Twin, with provisions for a backup mic; and the FJS Junior, for lower mic placement. Modular design allows custom configurations and matching with other accessories.

The Flamingo line is from Danish Pro Audio and is imported to the U.S. by Brüel & Kjær/TGI North America.

For information, contact TGI North America in Ontario at (519) 745-1158 or circle Reader Service 8.



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READER SERVICE NO. 51

The Future Of DAWs

► WORKSTATION, continued from page 26

to handle the final mixdown of tracks processed from a hard disk or removable media. Mixing, after all, is considered to be a highly tactile function.

The ability to feel the track/channel fader in front of them, see its movement as the mix comes together, and then hear the effect in real time, is a desirable part of the production and mixing process. On-screen moving faders accessed via a mouse is a far less desirable design; users lack the ability to control more than one simple point-and-click or push-and-hold-down function at a time.

Let's swap

A major talking point still remains file interchange, which many participants considered to be a major challenge, with too many competing formats.

OMFI (Open Media Framework Interchange) offers a great deal of potential, and may at long last be a possible solution to the confusion and frustration of transferring a project from one system to another. This may be true at least for the upper end of the DAW market, where manufacturers are better able to underwrite the costs of developing suitable translation of routines, or rewriting the operating system to provide native support of OMFI-compliant file structures. Time will tell.

In addition, the networking of systems via high-speed robust LAN/WAN topologies would provide access to a common array of sound files which, in turn, could be accessed directly by an automated on-air playback system.

System flexibility was seen as a key advantage for the current generation of open-format PC-based workstations. Many radio production facilities are looking for systems that can be upgraded and/or expanded to accommodate new functions and methods of working.

The upgrade/expansion process involves three discrete stages:

The installation of new systems which, hopefully, should be compatible with current technology and way of working.

A learning curve, preferably shallow, for new system components and conflicting user interfaces/methodology.

The transfer of audio sound files, music libraries and related elements into new editing/mixing/processing environment. This process, as will be readily appreciated, can be dramatically streamlined through the use of standard files formats.

For more details of the Marketing Report that resulted from this recent series of DAW focus groups, contact me via mediapr@earthlink.net or (818) 753-9510.



Mel Lambert is principal of Media&Marketing, a Los Angeles-based consulting service for the professional audio industry.

SHORT TAKE

Mini-Automation at KALW(FM)

What do you do when you need to partially automate the overnight breaks at your station quickly, easily and inexpensively? Chief Engineer Dave Evans of KALW(FM) in San Francisco did so with a Roland AR-100 Announcement Recorder and some clever wiring.

The 16-bit AR-100 is the baby brother of the Roland AR-2000 recorder. Like its sibling, the AR-100 records audio onto Flash RAM cards and can play back up to 250 separate messages. It had previously found a niche in the sound contractor and installation markets, but is also making some broadcast inroads, as evidenced by Evans' experiences.

KALW is an NPR affiliate, airing BBC

programming between midnight and 6 a.m. Hourly station IDs and underwriting



Roland AR-100: Radio Star

announcements that interrupt the programming are handled by an AR-100 and a Burk LX-1 Audio Switcher. The system is reliable and maintenance-free.

Basically, the LX-1 sends GPI (general purpose interface) messages to the AR-100, prompting the playback of one of several messages. In its current configuration, GPI Relay 1 switches between the BBC feed and the AR-100; GPI 2 rolls the 39-second underwriting message and ID; GPI Relay 3 turns the line back over to BBC, and so on.

According to Evans, the entire package cost KALW about \$800.

The portability of the AR-100 — combined with its low cost — would also

make it ideal for use at remote sites; station personalities could load their favorite show effects and use them live on location.

Roland also manufactures the VS-880 Digital Workstation, the S-760 Sampler and other products of interest to broadcast production professionals. Contact Roland Corp. in California at (213) 685-5141 or circle Reader Service 134.

Burk Technology is in Massachusetts and can be reached at (508) 486-0086 or circle Reader Service 160.

— Alan R. Peterson

New MIDI Standard

► STANDARD, continued from page 20

There are even more possibilities. Because MIDI essentially is a multitrack form to begin with, a DLS MIDI file would allow you to remix a song as needed, even position it in a multichannel soundfield. Plus, any kind of sound could be used as the sample.

For instance, soundtracks for an advertisement could contain a number of sound effects. Footsteps, tire screeches, blasts and even dialogue could be downloadable samples that would be mixed in real time.

This could be done manually or by an automated computer program every time a commercial was played back.

DLS modules would be samplers that could sonically be turned into anything you desire without adding PROMs or loading CDs. If you have enough DLS modules with sufficient memory, you are set.

Because DLS is smart enough to predict when a sound will be used in a song, it will wait until just before the big timpani part is due before the required sound sample is loaded to the module, saving memory.

The MMA (MIDI Manufacturers Association) and the IA-SIG (Interactive Audio Special Interest Group) are working to develop and standardize DLS MIDI sounds and hardware on an international level so that the audio industry can work within a universal system.

Predictions

Manufacturers could go for large-scale production efficiencies because their products could be in production for more than a few months. Composers would have a consistent but virtually limitless sound pallet to work from. Consumers would ultimately have the sound played back as it was originally intended.

This consistency of playback would allow for better DLS MIDI authoring.

In short, we would all make some money while the listener was getting better sound. What a deal.

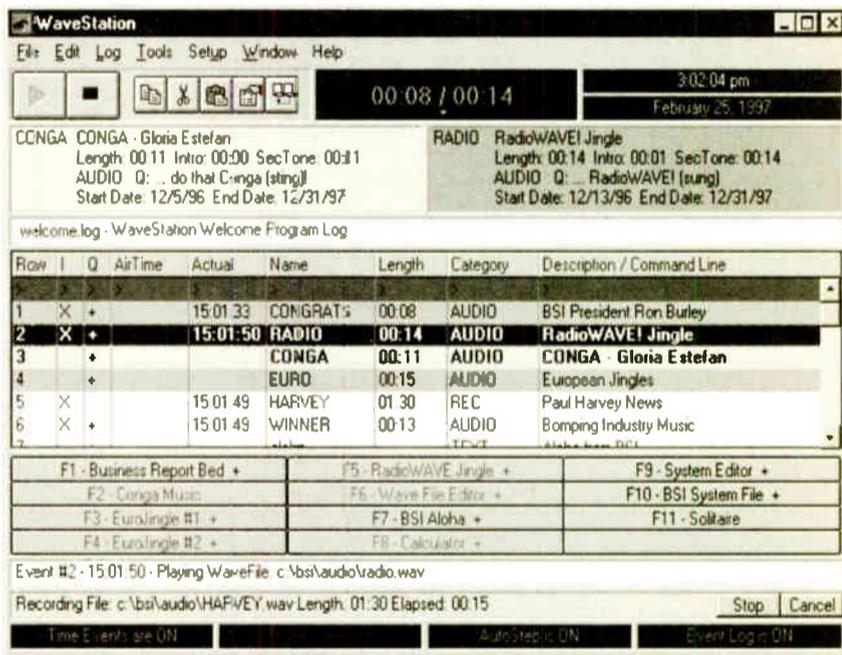
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New Kids Format
See page 38

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PERSONALITY PROFILE

This Little Piggy Goes to Market

Dee McVicker

Jonathan Hoenig truly is the little piggy who went to market.

He's the student host and producer of the personal finance show "Capitalist Pig," and yes, he's a bit of a ham, what with the way he plays up the press with his Spam-loaded press kits. What differentiates the program is the demographic he's targeting: Generation X, the age group with \$125 billion annual purchasing power.

"Capitalist Pig" is created by and for college students. Coming out of WNUR-FM, 89.3 MHz, a college station at Northwestern University in Evanston, Ill., this weekly one-hour show is the first of its kind to focus exclusively on the personal finances of college students: what stocks to buy, where to buy them, what a mutual fund is, what the Dow Jones Industrial Average is and other financial matters of concern to a generation coming of age.

National exposure

Hoenig, a 21-year-old Communications major, started the show from his dorm room with the help of a few buddies. Now he's going to market with it. The ink on his new contract as a regular contributor to "Marketplace," the Public Radio International finance show carried on over 300 stations, is barely dry, and Hoenig is expressing an interest in commercial stations.

The secret of the program's success is good old-fashioned market knowmanship, something Hoenig said is sorely lacking in much of the programming that is made-for-Generation X on the radio today. If advertisers and broadcasters want to reach Generation X, he said, they need to cut out all the canned hype.

"We're very discriminating, we know prepackaged material when (we) hear it," said Hoenig, whose show steers clear of the kind of canned material that he says "sounds like its coming from a bunch of 40-year-olds sitting around smoking cigars in a board room."

The only hint of prepackaged commercialism in the "Capitalist Pig" is its morning zoo-like format, pig and all. Hoenig uses music liberally throughout his show to capture and hold the MTV set. One segment he produced for "Marketplace" had approximately 30 sound clips. Music is typically vintage 1980s, the nostalgia years for Xers; sound clips usually are comical adjuncts to the subject at hand.

In an interview with guest Louis Navellier, one of the country's highest-rated stock pickers and publisher of a top-ranked investment newsletter,

Hoenig introduced his guest's financial accomplishments with a sample from "Top Gun." A voice from the film soundtrack says, "The list is long but distinguished," and another voice intones, "Yeah, well so's my Johnson."

Hoenig himself is introduced by



Jonathan Hoenig

another movie soundtrack, the Gen X favorite "Ferris Bueller's Day Off," and the voice of its high school secretary crooning "He's very popular with ... motorheads, geeks, sluts, thuds, wastoids, dweebies, dickheads. They think he's a righteous dude."

The show contains several features, including summaries of the week's financial news and "Guess the Stock Market," a call-in contest in which winners receive coveted prizes such as fresh pork.

Where's the beef?

There is a serious side to the show, however, with some pretty meaty financial advice weaved amongst the frat-party-like pranks. In one segment called "Ask the Pig," for example, a student asked the meaning of capitalization as "small-cap," "mid-cap" and "large-cap." The answer, from guest contributor Henry Feldman, managing partner of Concord Investment Co., was not unlike something you might hear in an economics class.

"Big-cap, the large-cap, is usually companies that have over \$5 billion in market capitalization. ... So if there's a million shares outstanding, and the stock sells at \$100 a share, the capitalization is \$100 million. ... Small-capitalization stocks are those stocks that are below \$500 million, and everything in between, between \$500 million and \$5 billion, is considered mid-cap," Feldman said.

Another guest offered this stock market analysis: "Most of the strength (of the market) over the past several weeks, I'd say in the last month-and-a-half, has been concentrated in bigger-cap stocks; that is, stocks of large companies that are characteristically found in the Dow Jones Industrial Average."

Most of the guests, in fact, are very

professor-like in their descriptions of market trends and terms. Louis Rukeyser of "Wall Street Week"; Leo Melamed, a board member of the Chicago Mercantile Exchange; and David Brady, who manages Stein Roe & Farham's Young Investor Fund are a few of the distinguished guests who have been on the show.

Boredom not allowed

Segments are limited to 10 minutes, or seven minutes for "Marketplace," to keep the boredom level down. Hoenig also tones down his attitude for "Marketplace." He made his "Marketplace" debut on May 9, significantly widening the potential listenership of "Capitalist Pig" from a couple thousand to more than 3 million.

Asked what stations he listens to, Hoenig not surprisingly expressed a preference for college stations, believing that's where most of the original programming is. Xers like him avoid the commercial radio band, not because they're not interested, he said, but because there has been nothing for the MTV generation to tune into.

Until now.

More than just an Xer who understands the market because he's part of the market, Hoenig has a good idea of what works on radio and what doesn't because of his experience with the medium. His first radio stint was with Chicago icon WLUP-AM-FM when he was 16. He also was a teen film critic on WTTW(TV) for three years, but says his real love is radio.

"I was introduced to radio first and fell in love with it," he said.

His entertainment style fits radio better than TV, he said. Hoenig recently attended a public radio conference and was reminded once again of how at home he felt with radio people.

Hoenig said booking the show is easy because it makes good economic sense for his guests, many of whom would probably advertise on the show if it were carried on commercial stations.

Lest there be any question as to the viability of this demographic, Hoenig suggested broadcasters take note of credit card companies holding marketing campaigns on college campuses. Several major credit card companies in the past year have held sign-up vigils at universities in order to attract what they consider to be a lucrative market: the Generation X demographic — 45 million consumers born between 1965 and 1977.

The very same demo the "Capitalist Pig" is going after, full-boar.

■ ■ ■

Dee McVicker is a regular contributor to Radio World.

WCBS-FM: Still Going Strong After 25 Years

Vince Santarelli

The date was July 7, 1972. The CBS-owned-and-operated FM in New York City was struggling, and a format change was in order. At 6 a.m. came "Donna The Prima Donna," and WCBS-FM became "Solid Gold Radio." Bill Brown, who currently hosts the noon to 3 p.m. show on WCBS, was there when the change happened.

"The format change was really quick, just a matter of weeks," Brown said. "We had been an album rock station and were basically just a little ahead of ourselves. We were AOR before there was AOR. We liked to call ourselves an artistic success with the album format, but we weren't making a nickel.

"The powers-that-be decided they had to go in some direction and fill a void," he said. "Our sister station WCAU-FM in Philadelphia was already doing an oldies format, and



WCBS-FM's 'Morning Mayor' Harry Harrison (left) was caught taking a quick break with midday personality Ron Lundy.

doing it very successfully. We basically ended up with their program director, John Gehron, who packed his suitcases and all of his boxes of

See PARTY, page 31 ▶

► PARTY, continued from page 30 records, and came to New York."

In a business as volatile as radio, in the top market in the country, you don't often hear about 25th anniversaries. That's why the industry took note when the staff and management of WCBS-FM gathered at the Museum of Television and Radio last month to celebrate 25 years as "New York's Oldies Station."

Program Director Joe McCoy summed up the station's success: "We play the best music in the world, we have great people both on and off the air at the radio station and we have a very loyal and dedicated audience that loves this music."

McCoy, who grew up in the New York area and spent time as a disc jockey at WOR-FM and WNBC(AM), took over the programming reins at WCBS-FM in 1981. The station had been doing well in come, but the quarter hours were not as big as they should have been.

"When I first got here, we were known as the 'doo-wop' station," McCoy said. "Even though we played music from the '60s, most people knew us as the '50s station. So we redirected



the music and started playing more music from the '60s: Beatles, Stones, Beach Boys and Motown.

"Then we did some research and found out that our phrase 'solid gold' didn't project the image that we were looking for. Most of our listeners

In a business as volatile as radio, in the top market in the country, you don't often hear about 25th anniversaries.

remembered us as 'the station that plays the oldies.' We decided if that's what our listeners are saying to us, we should be saying it back to them. Against all radio logic, we started saying, 'CBS-FM: We play your favorite oldies.'"

Seasoned staff

To McCoy's credit, the station has hit No. 1 in the Arbitron ratings four times since 1990 and consistently has been in the top 5 for the past eight years. Proof of the station's popularity was evident at the live broadcasts on the 25th anniversary. The first broadcast was from 5 to 9 a.m. with Harry Harrison and the morning team. Fans began to line up for the show at 2 a.m. The second broadcast featured Bill Brown and Don K. Reed, the station's senior staffers, from noon to 3 p.m. The auditorium was filled, with more fans in another room watching the festivities on monitors.

Another unusual aspect of WCBS-FM is the longevity of the air staff. Bill Brown has been with the station for 28 years. Overnight personality Don K.

Reed has 25 years seniority. In fact, of the full-time air staff, the "short-timer" is late-night personality Bobby Jay, who's been with the station for 10 years.

The sentiment of the air staff was expressed by afternoon man Bob Shannon. When asked where he wanted to be in 10 years, he replied, "Right here, still between Ron Lundy and Norm N. Nite. Nobody ever leaves here on his own!"

The turnout for the celebration demonstrated the loyalty of the WCBS-FM audience and proved the worth of its formula: great music, great personalities and great promotions.

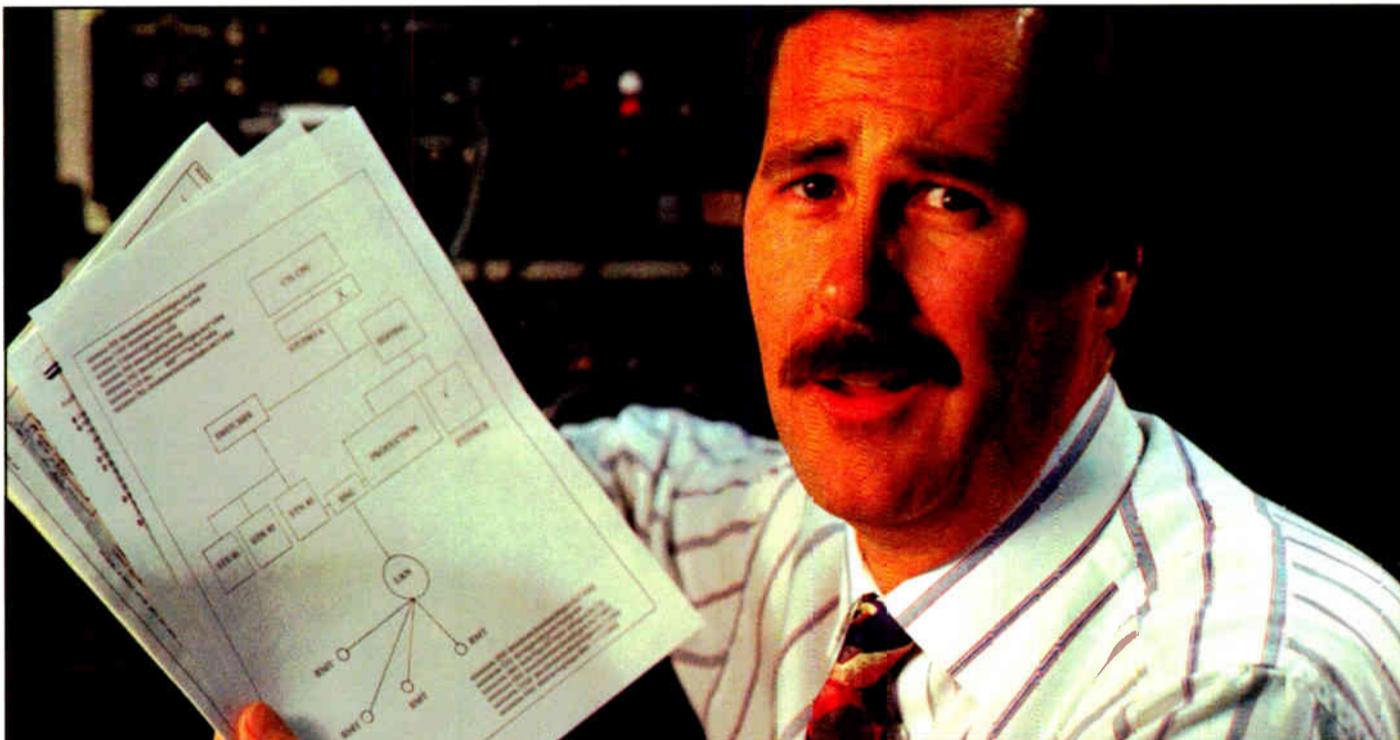
Vince Santarelli is editor of the monthly newsletter *Apple Bites*.

Comments about stories in *Radio World*? E-mail us at 74103.2435@compuserve.com

Joyner Gets on the Bus

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Surprise Growth for Classic Rock

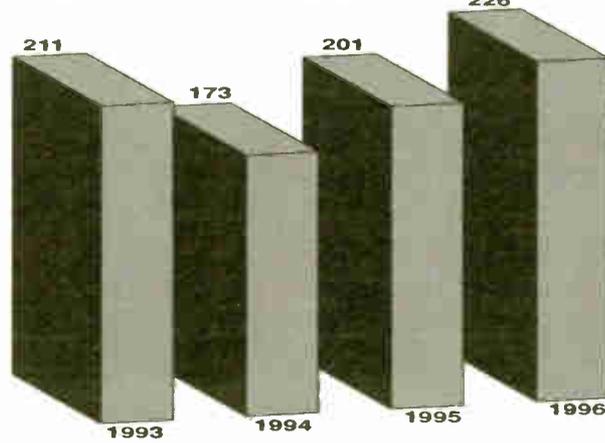
Watch out, alternative-formatted stations! Audiences for the classic rock format, which appeared to be eroding and heading for alternative pastures, are again embracing proven artists and songs.

"Listeners know (the format), like it and continue to return to it," said Marla Pimer, executive vice president of Interep Research, which issued the "Classic Rock Radio" report. The report shows that on an average day, 9 percent of adults 18+ listen to classic rock stations, which now number a four-year high of 226.

Other trends are positive. Listenership among those 12+ and adults 25 to 54 is higher than at any time during the past year, registering a 3.8 and 5.2 for the respective groups. Most listeners are male (58 percent) and married (55 percent), with incomes of at least \$40,000 (59.5 percent).

— Chris Hamaker

Number of Classic Rock Stations

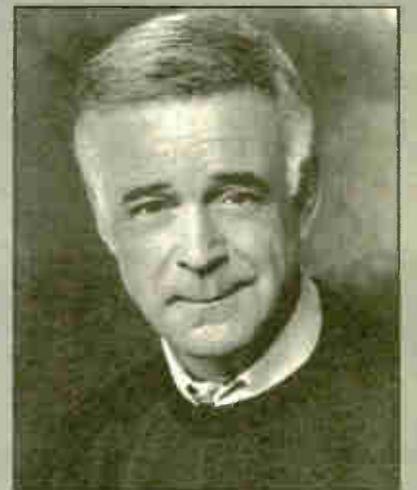


KABC vs. Rush: Move Jackson To Weekends

In an effort to topple rival Rush Limbaugh, KABC(AM) Los Angeles has moved Michael Jackson, the Talk Show Host of the Year, to the weekend shift.

KABC moved the legendary Jackson from his weekday talk stint and replaced him in the 9 to 11:45 a.m. slot with Ronn Owens, longtime host at ABC-owned KGO(AM) in San Francisco.

KABC Operations Manager and Program Director Dave Cooke said, "Ronn is the only talk show host in a major market to consis-



Michael Jackson

tently beat Limbaugh in the ratings. We are confident Ronn will be just as successful here in Los Angeles."

Owens is the top rated radio personality in San Francisco during his time slot, with an 8.2 share compared to Limbaugh's 4.5 (Arbitron, Winter 1997, persons 12+).

Owens, who is liberal on social matters but conservative on economic issues, joined KGO in 1975. He will simulcast his issue-oriented program to Los Angeles and San Francisco, originating the show from Los Angeles every other week.

Cooke termed the Jackson move to weekends "a different approach to attacking the competition both weekdays and weekends."

In the Winter 1997 Arbitrons, KABC had a 3.0 share. KFI(AM), Limbaugh's Los Angeles affiliate, registered a 4.3.

Jackson, who is celebrating his 30th year at KABC, was recently named Talk Show Host of the Year by the National Association of Radio Talk Show Hosts (RW, April 30).

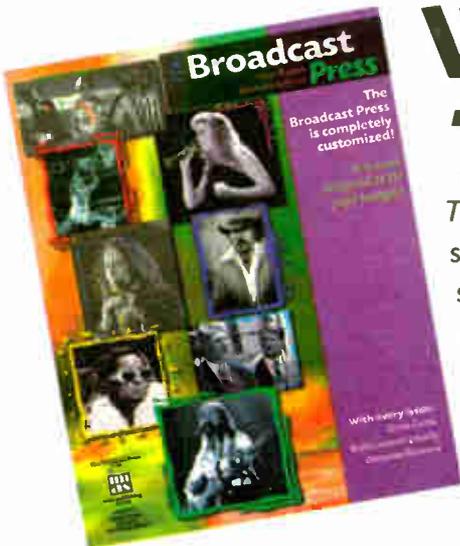
Jackson said he was "surprised" at being relegated to weekends. "But," he said, "I'm not a victim in this situation: I don't have to be here. I'm ready for a new challenge and intend to do as I've done in the past. I've never felt more on top of my game or better equipped for this new opportunity."

— Bob Rusk



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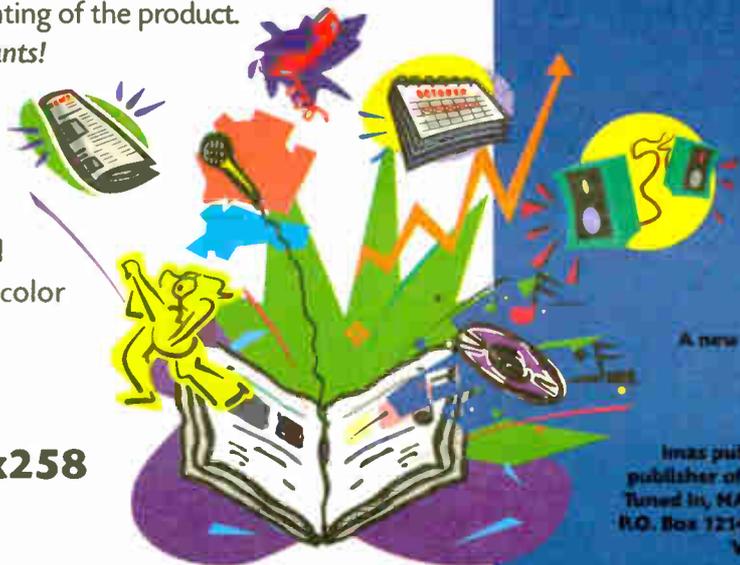
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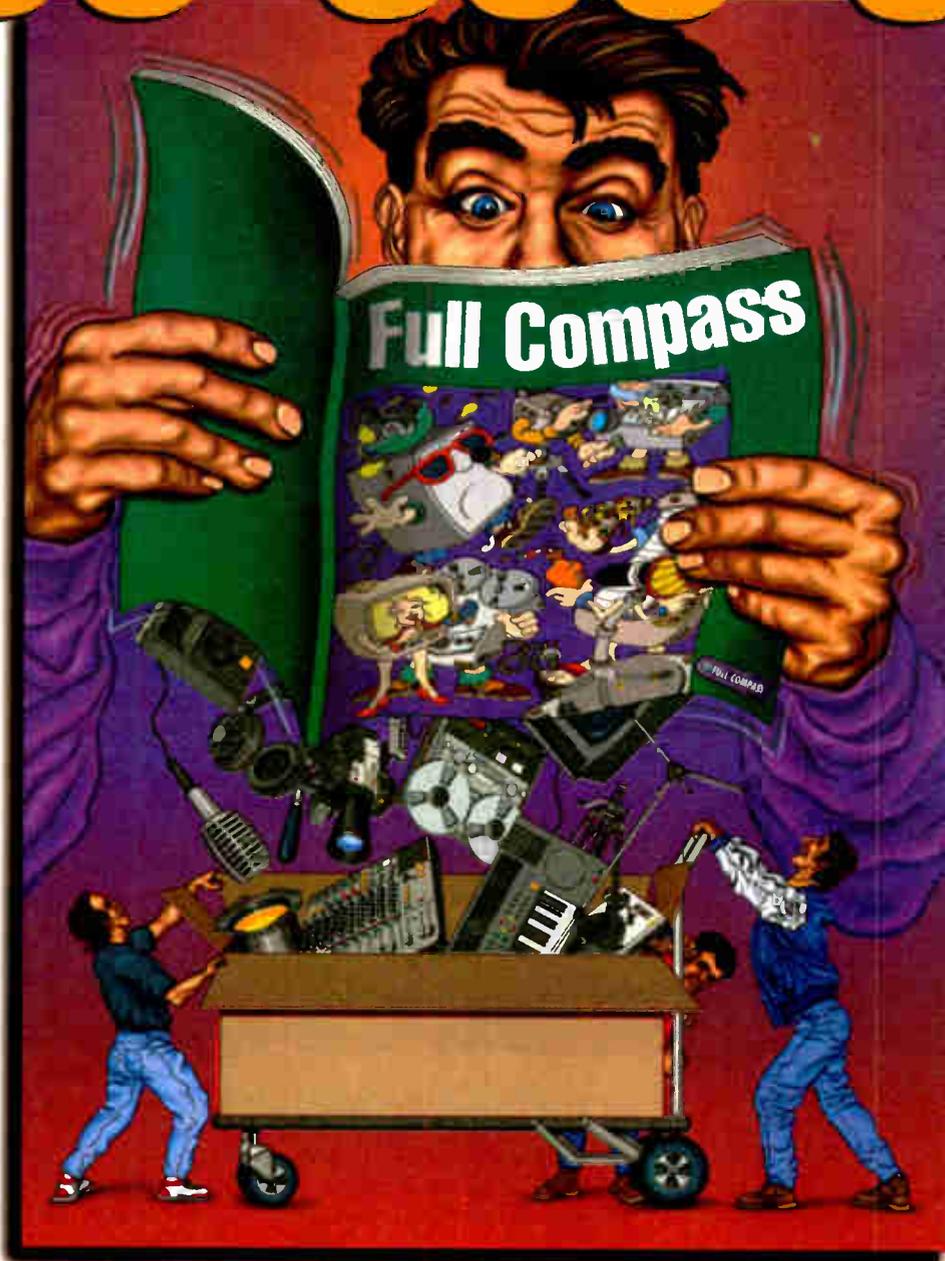


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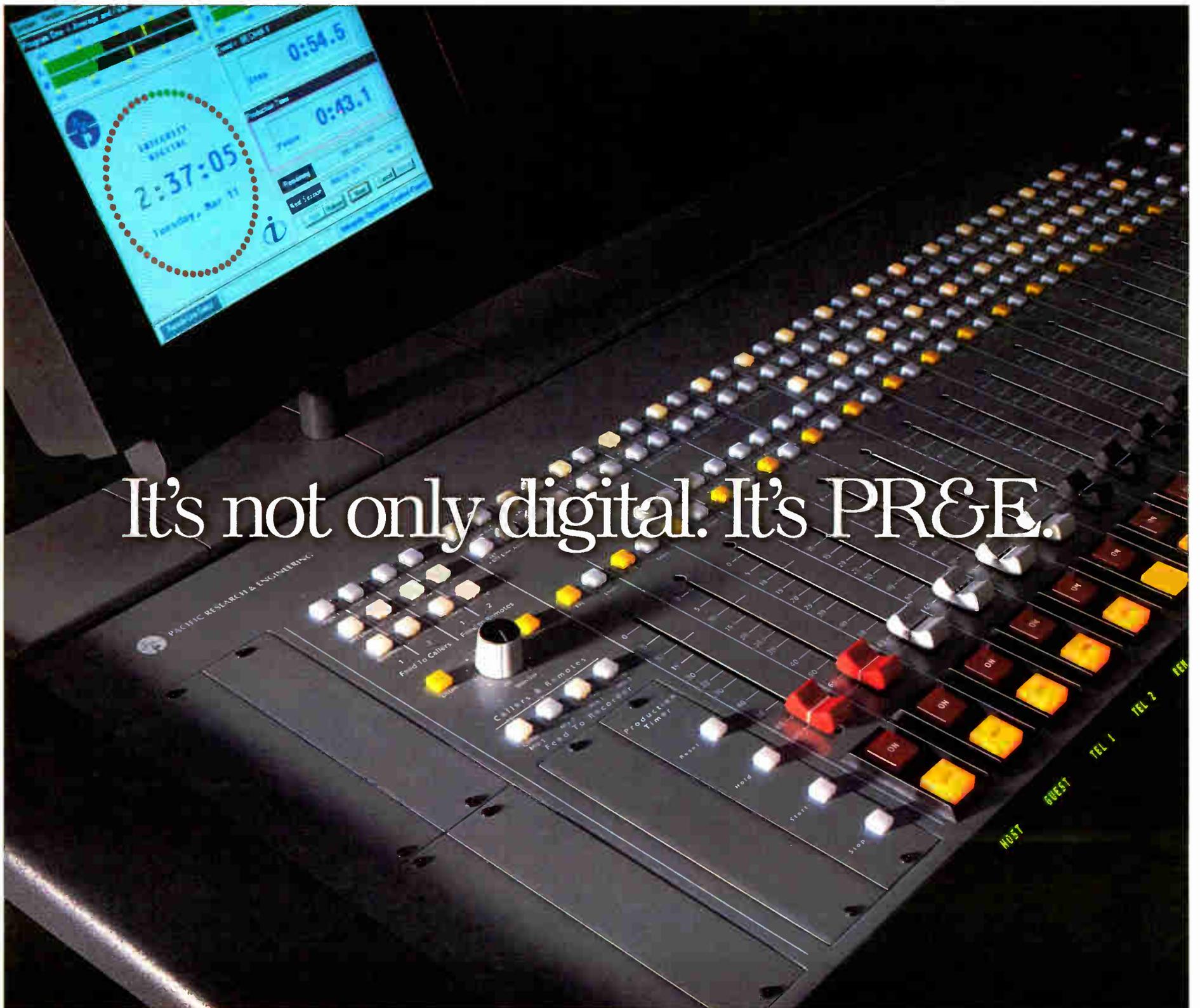


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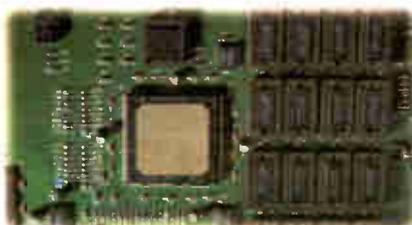
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Circle (58) On Reader Service Card
World Radio History

Can't We All Just Get Along?

Sharon Rae

How does a radio station manager prevent programmers and sales reps from butting heads?

Industry experts suggest everything from an annual "State of the Station" address to keep departments up to date, to a pop quiz on programming.

In an industry where talk is tops, it seems almost ironic that a lack of communication would be a problem.

Communicate

"In all the rush and crush of today's business environment, it's essential the sales and programming departments really do take the time to communicate with each other," said Ray Massie, operations manager of KFRG(FM) in Riverside/San Bernardino, Calif.

According to Massie, bridging the gap between programming and sales is a matter of making sure that both sides of the building communicate with each other. He moderated a session on management issues at the spring NAB convention.

Dave Nicholson, general manager of Real Country network, agreed that communication is key.

"This is easy to say, but hard to do," he said. "Sometimes if the two departments will communicate with each other, and everyone has a common goal and understands what should be achieved, then the station overall will be more successful."

Nicholson said programmers and salespeople usually have different agendas, "and the only time they spend time together is when they've butted heads over something."

Another facet of Nicholson's communication concept is what he calls his "State of the Station" address.

"We do that at the beginning of the year," he said. "We get everybody together, full- and part-time, no matter what they do. Department heads talk about what's gone on for the last year and what we want to achieve for the next year."

Nicholson said smaller markets actually have an edge when it comes to bridging the gap between programming and sales.

"There's not such a large gap because the sales manager does the sports," said Nicholson, citing one example. He also suggested that the program director might carry a sales list. "So really a lot of the smaller markets are really pretty sophisticated."

Mutual understanding

Tom Carroll, general sales manager of KMZQ-FM in Las Vegas, said a cooperative atmosphere between programming and sales pays off in many ways.

"When these departments are working synergistically, you have a station that respects its product."

John Parish, general sales manager of KKJZ(FM) in Portland, Ore., said the overall health of a station depends on respect.

"The tone needs to be set at the general manager level," he said. "The program director and the general sales manager need to be respectful of each other's jobs. ... They need to make sure that every one that works on their staff is informed of the overall goals of the radio station ... to have the largest listener base possible and

the highest revenue possible."

Parish suggested that a salesperson participate in the promotions meeting.

"It's a good step toward easing departmental friction," he said. "They'll come away from the meeting with a better sense of what programming is trying to accomplish, and that is valuable to the radio station. The more people who are informed about the overall goals of the station, the better off the radio station is."

Mark Edwards, program director of WLIT-FM in Chicago, spoke of making everyone in the radio station a "product specialist."

"At Lite FM, we talk about how everyone is basically in sales," he said.

"If you are the person who answers our phone, you are probably the biggest salesperson."

Edwards even goes so far as to "test" his sales staff.

"Questions about Lite's programming," he said. "We ask them things like, what's the station's target audience? Where is the transmitter? Name three core artists — things like that."

No Ouija board

Edwards said he regularly invites salespeople to sit in with air personalities on shifts.

"They get to see what they do in (the studio). We also invite air personalities

into sales meetings every once in a while as well. We also invite everyone in the radio station to come out to the music test ... to see the listeners. Salespeople can see who they are really talking to. Then when we put a music test on the air, they don't think I'm sitting in my office with a Ouija board trying to decide what songs to play."

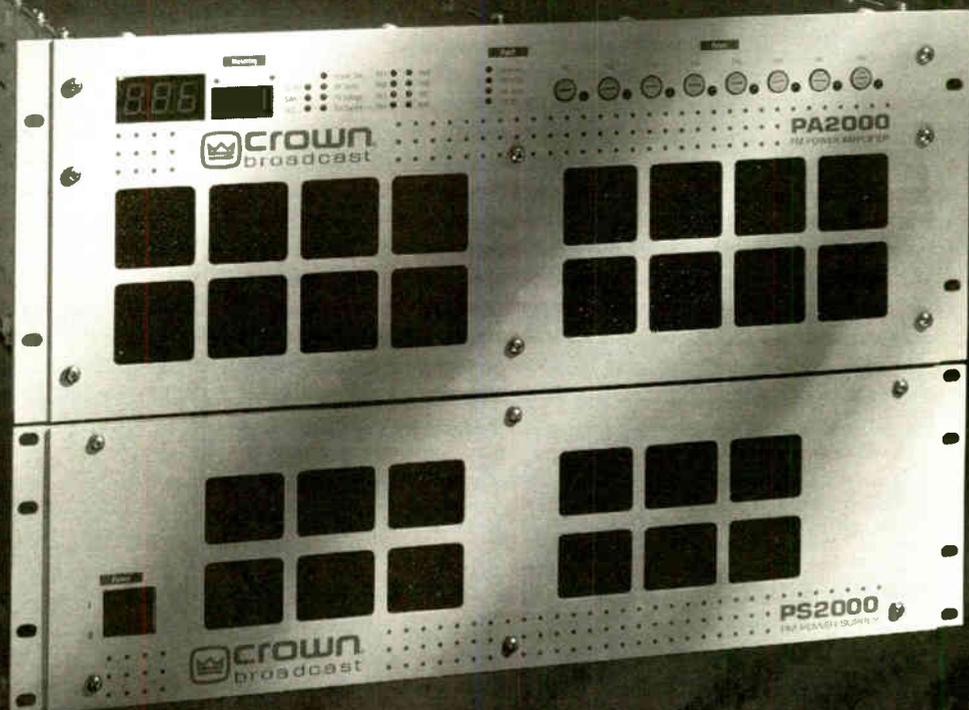
Edwards also emphasized the importance of trends.

"It's very important that the trends are out in the open so there are no secrets. We want everyone to know where the radio station stands at all times."

What is Edwards' guarantee for those who follow his recipe in bridging the gap between programming and sales?

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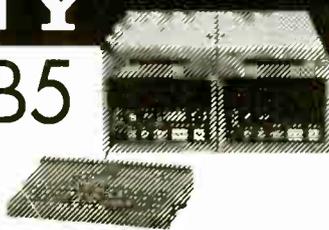
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STATION SNAPSHOT

WEUP: Black Radio in the South

Claudia Tucker

In March 1958, only two years after Alabama watched Martin Luther King organize the Montgomery Bus Boycott to protest enforced racial segregation in public transportation, black-owned station WEUP(AM) went on the air in Huntsville.

And it has stayed on, through the Civil Rights Act of 1964, which outlawed racial discrimination in public facilities and banned registrars from applying different standards to white and black voting applicants; through the 1968 ban on discrimination in the allocation of federal housing money; through the end of racial discrimination in employment by state government agencies in 1972; through our day.

A rough road

All new stations face challenges, but a black radio station emerging in the segregated South of the 1950s faced additional obstacles.

WEUP, Huntsville's fourth station, originated as a 100 W AM station broadcasting gospel music, sermons, news and popular music from a house trailer on the grounds of Syler Tabernacle Church. The original station owner, Leroy Garrett, ran into difficulties from the start. He was arrested by Huntsville authorities when he began constructing the station even though the city had denied his request for a permit.

The station began 24-hour broadcasting shortly after a change in FCC laws regulating such broadcasts in 1975. Garrett played a significant role in changing the regulation. After his application for a night broadcast permit was refused, Garrett took his case to the U.S. Fifth Circuit Court of Appeals, which ruled in his favor.

The court ruled that black or minori-

ty ownership must be considered by the FCC in determining whether to waive city coverage requirements.

to Minor Hill, Tenn. Located at 92.1 on the FM band, the 5,000 W station reaches nine counties in northern Alabama and southern Tennessee with gospel, contemporary blues and jazz. Ironically, WEUP broadcasts now reach Pulaski, Tenn., the birthplace of the Ku Klux Klan.

The Tennessee Valley is one of the most diverse and fastest-growing areas in the southeastern United States. The WEUP broadcast area is in the top 100 largest MSAs in the country. Retail spending in the WEUP market area exceeds \$4 billion. The station estimates 47.700 cumulative listeners per week.

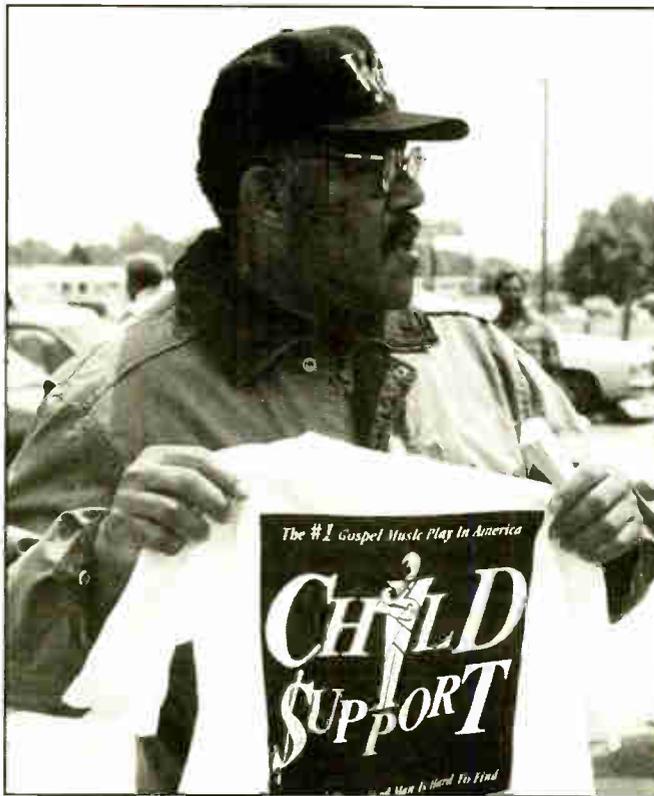
WEUP also provides local and regional news and information. Information updates air twice each hour during morning drive, and periodically throughout the day. National and international events are covered through the Sheridan Broadcasting Network.

The WEUP "ThunderCruiser," a hospitality suite and entertainment station on wheels, is equipped with a 2,000 W

sound system for broadcasting live remotes and customized promotions for businesses and entertainment events.

Although urban radio stations are not

Murry. "WEUP is in a market with a large military presence, and we accommodate a lot of e-mail from military personnel and their families asking us



WEUP station owner Hundley Batts promotes the gospel music play 'Child Support.'

to convey messages over the air to their loved ones back in the States."

Soon, overseas fans will be able to hear those messages as they are broadcast, once WEUP begins airing its signal live across the Internet. Other station upgrades include the recent transition from analog to digital. In May, WEUP installed a new Scott Studios digital automation system.

Community commitment

WEUP has a tradition of serving its area. The station airs a weekly Community Focus Program to address

issues and concerns of Tennessee Valley listeners. It also broadcasts live play-by-play of local high school football games in Alabama and Tennessee.

Batts' station also owns and coordinates what has become one of Huntsville's premiere events: the June Black Arts Festival. This free event, which draws around 30,000 attendees each year, features nationally known artists, as well as regional and local talent, playing a range of music from gospel to rap.

Festival benefits

While the festival is an important avenue for recognizing and celebrating the diversity of artistic talent in the black community, it goes further. All proceeds are donated to the Harris Home for Children, a United Way agency that provides services for children at risk and their families. Services include residential treatment and foster family care services for teens who must live away from home.

This year's Black Arts Festival was held June 28 and 29. The musical lineup included Alimayo Baye Matsimela, a traditional drum ensemble; Kahlista, a recording artist for Garfonic Record Label; Reverend Spann and the Brooklyn All-Stars, an award-winning gospel group with a long history of hit recordings and international tours; Allen "Raw Dawg" Rawls, a comedian who has performed with the Def Comedy Tour and at Zanies Comedy Showplace in Nashville, Tenn.; and the Lumzy Sisters, another award-winning gospel group with two well-received albums to their credit.

In addition to music, visual artists displayed their work. Face painting, puppet shows and other activities were held for children.



Claudia J. Tucker is a writer and editor for SCI Systems Inc., a Fortune 500 electronics manufacturing service provider in Huntsville, Ala. She profiled the Midwest Radio Theatre Workshop in the April 30 issue of RW.



The WEUP Magic 'ThunderCruiser'

ty ownership must be considered by the FCC in determining whether to waive city coverage requirements.

Garrett's widow, Viola Garrett, sold the station in 1987 to its current owners, the husband-and-wife team of Hundley Batts and Virginia Caples.

WEUP remains the only source in the area for urban programming. The station's reach was expanded in 1993 with the acquisition of WEUP-FM, licensed

widely represented on the Internet. WEUP has maintained a website (www.weup.com) for more than two years. In addition to serving the station, this Internet presence allows the WEUP sales staff to offer independent sites to its advertisers.

"We also recognized that an on-line presence would help our station domestically and internationally," said Program and Music Director Steve

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Radio Disney Seeks Kids Market

Chris Hamaker

Disney-owned ABC Radio Networks is moving toward an official Oct. 1 roll out of Radio Disney, a new radio format for kids, undeterred by its lawsuit with Children's Broadcasting Corp. and in the face of a boycott by the Southern Baptist Convention, representing the largest Protestant denomination in the United States.

The company kept details of the format sketchy until mid-summer, while it analyzed research and ratings data from select test markets. Radio Disney is banking that its combination of name recognition, upbeat music and child-DJ interaction could alter the landscape of children's radio.

Music to their ears

ABC is bullish on research by Statistical Research, Inc., which surveyed more than 1,500 children aged 5 to 9 (Radio Disney's core audience) and more than 1,300 mothers. The surveys were conducted in Radio Disney's four test markets: Atlanta, Minneapolis/St. Paul, Salt Lake City and Birmingham, Ala. The format has been airing in Seattle, but Disney is not promoting the station aggressively and did not include the market in its survey.

Radio Disney averaged a 1.8 in March among children 5 to 9, Monday through Sunday between 6 a.m. and 7 p.m., besting all network radio ratings save the 2.0 for ABC's Prime Network, as registered

the number of days per week spent listening to Radio Disney.

Kantor guarantees a 1.3 rating for Radio Disney affiliates against their respective markets.

Kantor exuded confidence in this latest venture. Strong early numbers could jus-



Radio Disney AM drive personality Dean Wendt works the equipment in the broadcast studio.

tify a more aggressive launch, but he said Disney-ABC will add stations more slowly.

"We want to develop each individual market," Kantor said. "It's more important to get listenership in one market before adding another. We plan to get all of the top 150 markets. We'll be happy to put it on elsewhere. We'll take them any time. We've had quite a bit of interest."

Kantor said the company expects to cover more than 70 percent of the United States — a coverage area he referred to as "critical mass" — within three years. The goal: three-year agreements with each affiliate. Disney-ABC is looking

into purchasing other stations that would carry the new format.

Kantor was intrigued by the possibility of an FM affiliate for Radio Disney, but for now the expectation is that the music-intensive format will be exclusively carried on the AM dial. The only requirement is that each affiliate have a strong AM signal, something Disney said previous kids-radio providers have neglected.

Disney research indicated children do not discern the fidelity difference in AM transmission to the extent adults do, and with the climate of consolidation, AM is an advantage for a new format. "Consolidation is good for us," Kantor said.

"A lot of station groups don't know what to do with their AMs."

Kids interaction

Radio Disney puts the emphasis on kid interaction.

"We're essentially doing theater on the radio," said Scott McCarthy, vice president, new business development at ABC Radio Networks. "Our DJs all have radio backgrounds, but ... some are doing theater simultaneously, which is a nice talent to have."

Youngsters are put on the air every 10 minutes, participating in contests, requesting songs and conversing with the DJs. The network's 800 number has

received a staggering 5.6 million phone calls from listeners in its test markets.

The network gives away approximately 150 prizes a day, with values ranging from \$5 to \$15, and one larger prize worth between \$100 and \$150. One prize the network doesn't give out is cash. "(Kids) don't have a concept of cash, and parents didn't want cash prizes," Kantor said.

Other marketing plans for Radio Disney, beyond building its affiliate base, include a website that will stream the network audio feed, and a remote vehicle.

Equipment to Make the Mouse Roar

Ambitious plans to reach the top 150 markets in America with Radio Disney start at the ABC Radio studios in Dallas, where character voices, features and recorded phone messages are assembled and broadcast to all Radio Disney listeners.

Radio Disney uses two of the numerous ABC studios, one for production and one for broadcast. A Pacific Research & Engineering Productionmixer console is the main board in the production studio. Two Panasonic SV-3900 DAT machines record features to be aired later. The character voices are uploaded onto two Otari MTR 10 reel-to-reel machines. "There must be 30 (uploads) a day," said Operations Manager Robin Jones.

CD-R and more

Audio is processed with an Aphex Compellor. AIR Corp mic processing, two ITC 99 cart machines, two Denon DN-950FA CD players and two Tascam 122 MKIII cassette decks complete the audio complement, with all audio mixed into the PR&E ADX system, featuring a Doremi Dawn digital audio workstation.

Two often-used recordable CD units from Marantz, a CDR610 and a CDR620, can be found in a separate production studio.

Next stop is the broadcast studio, where music is played live on five Denon DN-951FA CD players. Similar to the production studio, the broadcast studio uses AIR Corp mic processing and two ITC Delta cart decks. Audio for commercials and features is stored in the McCart system from McCurdy. Two 360 Systems Instant Replays can be found in the broadcast studio.

Disc jockeys work the PR&E Radiomixer and use a 360 Systems Shortcut to edit the constantly incoming recorded phone calls. Jones said the quick editing work required here means the staff is considering other possible production solutions.

Staff Engineer Clark Tucker said the transmission process is completed when the audio "goes through a distribution amplifier from Benchmark, then into our uplink system with a QPSK modulation system from Wegener Communication. We backhaul on the satellite from here to Chicago. Chicago puts it on a subcarrier system."

Sample Hour

Song Title	Artist
"The Jock Jam"	Various Artists
"The Locomotion"	Little Eva
"Friend Like Me"	Aladdin
"Macarena"	Los Del Rio
"Play That Funky Music, Chipmunk"	Chipmunks
"Y.M.C.A."	Frogs of Summer
"Jailhouse Rock"	Elvis Presley
"MMM Bop"	Hanson
"Scooby-Doo"	Matthew Sweet
"Yoda"	Weird Al
"Where in the World Is Carmen Sandiego?"	Rockapella
"I Like It"	Blackout Allstars
"Surfin' USA"	Beach Boys
"We Got the Beat"	Go-Go's

© Radio Disney, 1997

by network radio rating service RADAR. The three-month average for Radio Disney was a 1.3.

The 9.4 share garnered by Radio Disney was higher than that of news/talk/information, gold/classic rock and rock formats, but comparable to adult contemporary. Radio Disney's share was less than shares for urban, country and CHR formats.

Backed by an extensive promotional campaign for Radio Disney — which Kantor called "probably the most expensive product we've ever done" — the new format seemed to take hold in the four test markets. Between 6 a.m. and midnight, audience size more than doubled from a 0.6 in January to a 1.5 in March, for an average of 1.2.

Separate research from Stratford, conducted in 11 phases during the test period, showed across-the-board increases in

Despite Suit and Boycott, Disney Proceeds

The format fruit of the merger between ABC Radio Networks and Disney faces two major opponents: Children's Broadcasting Corp. and the Southern Baptist Convention.

Prior to the Disney purchase of ABC, CBC entered into an agreement with ABC Radio Networks in an effort to increase national advertising sales for the CBC Radio Aahs children's radio network, expand its affiliate base and act as the exclusive international sales representative for the Radio Aahs format. The agreement included the use by ABC of what CBC called "confidential trade secrets." The CBC-ABC agreement was terminated in July 1996.

CBC took its grievances to federal court in Minnesota, accusing ABC of reneging on its commitment to support Radio Aahs and of using research methodology "trade secrets" to measure the potential for ABC's own children's broadcasting network.

As of late July, Disney had responded to the CBC allegations with a resounding "no comment."

Meanwhile, the Disney public relations machine has had its hands full with a highly publicized boycott of the company by the 15.7-million member Southern Baptist Convention.

The Convention targeted the moral content of Disney films and television programs it finds disagreeable as well as so-called "gay days" at Disney World and the extension of benefits to homosexual

partners of Disney employees. Left out of nearly all discussions of the Disney-ABC boycott was the content of ABC Radio Networks programming.

However, Richard Land of the Ethics and Religious Liberty Commission of the Southern Baptist Convention said the boycott of Disney-ABC includes "the whole thing. From A to Z, and everything in between."

At press time, it was uncertain whether the boycott would spill over to the larger evangelical community, but Paul Hetrick, vice president of media relations for Focus on the Family, said, "Separate from the Southern Baptists, we have been concerned, increasingly so, over the years about some of the things that Disney is doing. The good things that they're doing are not a compensation for the nefarious activities they are participating in and embracing."

Mike Trout, senior vice president of broadcasting at Focus on the Family, said, "It's obviously a very difficult thing to extricate yourself completely from any major communications group. Still, you do have to stand up and make your position known. We're still evaluating that."

"Focus on the Family" airs its "Focus on the Family Commentary" on three ABC O&O's: WJR(AM) Detroit, WBAP(AM) Dallas and KSFO(AM) San Francisco.

— Chris Hamaker

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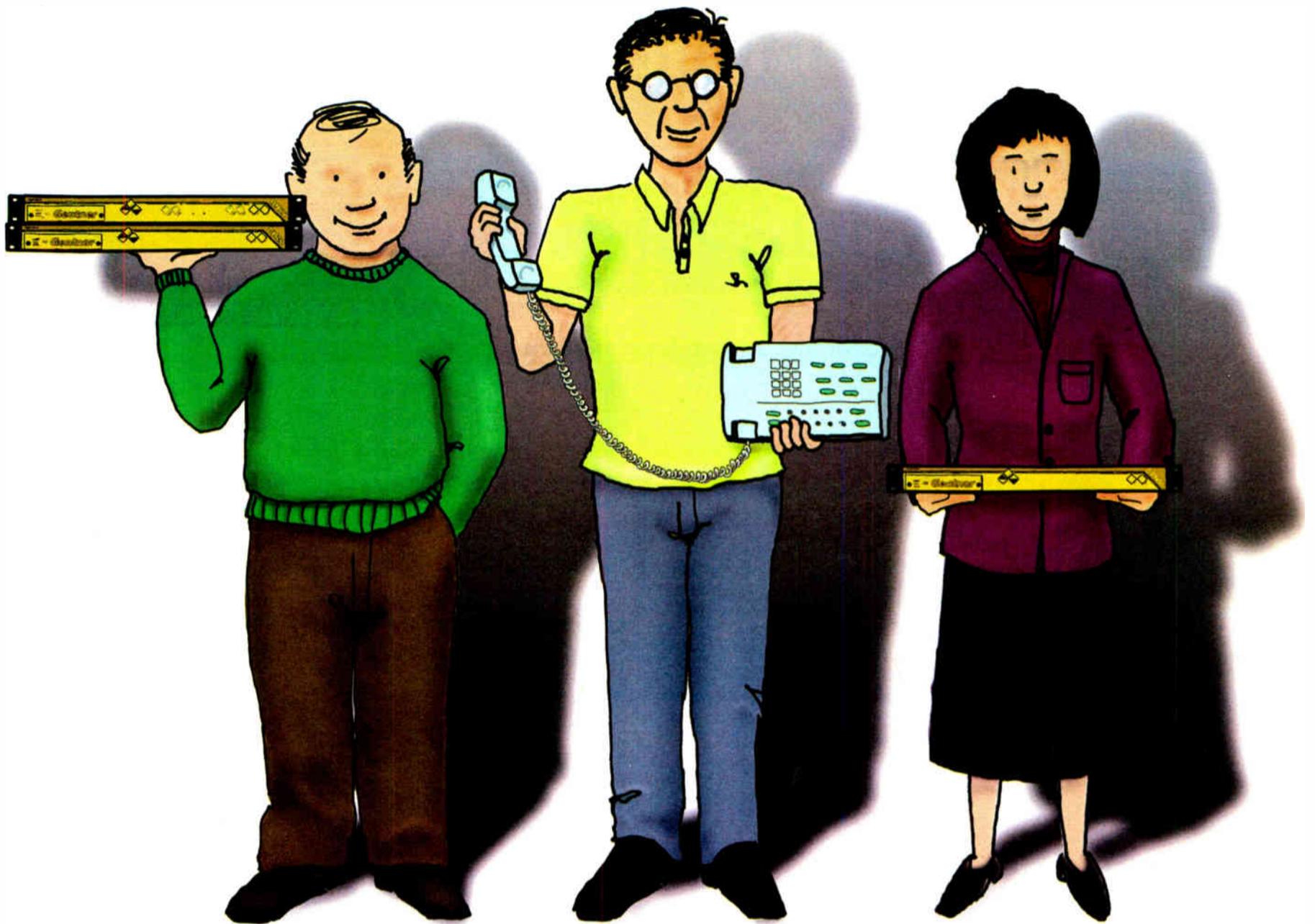


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New Jersey Radio Fights Back

The Jersey Radio Network Carves Out a Niche in One of the Country's Special Market Environments

Lee Harris

For decades, New Jersey radio operators have found themselves squeezed between a rock (Manhattan) and a hard place (Philadelphia). Most of the 7.9 million residents of the Garden State are well within radio range of the two giant markets, and larger advertisers often have found it more efficient to spend their dollars on stations in New York and Philly.

With deregulation, one New Jersey broadcaster is ready to deal with the big boys on a nearly level playing field. The Jersey Radio Network is not a network in the classic programming sense. It is more akin to the unwired networks of old, which made regional spot buys more efficient. But with JRN there's a key difference that provides an element of control absent from those old unwired networks. JRN owns all 15 of its stations, thus guaranteeing that spot buys are executed as ordered.

Heritage stations

JRN is owned by Nassau Broadcasting Partners, L.P., an operation that started out with two of New Jersey's premiere operations, WHWH(AM) Princeton and WPST(FM) Trenton. Two years ago, management began targeting stations throughout the state and in eastern Pennsylvania for acquisition.

JRN head Joan Gerberding said JRN primarily aimed for the top-ranked "heritage" stations in each part of the state.

"A number of them have been around for 45 or 50 years, so there's a lot of track record on these stations," she said.

The JRN concept called for leaving the stations programmed locally, but some adjustment was required.

"Our vice president of programming, Michelle Stevens, has gone in and really fine-tuned the programming on all of these stations," Gerberding said. "Even though the formats are different and the deliveries are different, there are still basic 'Programming 101' rules, and Michelle has instituted all of them, so

the stations are all sounding very good right now."

Next came the key sales concepts, including the division of the network into three "clusters": JRN North, JRN Central and JRN Shore.

"We have arranged the stations so advertisers can buy either the entire network, or they can mix and match depending on where their locations are,



or if they have some other geographic or seasonal preference," she said.

Gerberding points to beer advertising as a good example of how JRN's cluster capability can help target the right audience.

"They obviously are going to want the Jersey shore in the summer, and probably the Poconos (a nearby mountain region in Pennsylvania) as well, because these are big summer resort areas." Similarly, Nordstrom's department store bought time on the Central and Shore networks because that's where their stores are.

Gerberding said advertisers who in the past had to negotiate individual buys with stations around the state appreciate the one-stop shopping of JRN.

"Everything comes to the JRN home office. We're able to give clients one contact, one insertion order, one invoice, and they only have to write one check. We take care of disbursing the moneys to the appropriate stations from the one location," she said.

And clients only have to provide one dub, because spots are distributed to the JRN stations via DG Systems.

Local and regional newspaper chains have been selling this way for years, and Gerberding said JRN is a major weapon in the never-ending, print vs. radio battle for ad dollars. "I've been in this business for 29 years and I've been fighting print for 29 years, and I will probably fight print for another 29 years. JRN gives us more clout to go after those ad dollars because it just makes so much sense to buyers."

Agencies and major clients who may not be familiar with this approach to buying radio are being educated by

Gerberding and Katz, the rep firm for the network. A presentation road show took Gerberding to Dallas, Boston, Philadelphia, New York, Los Angeles and San Francisco.

Hard-boiled

In addition, JRN produced a six-minute videotape boiling down the concept and highlighting the morning shows at its various stations around the state.

Three hundred copies of the tape have gone out to agencies and key advertisers.

There are some serious numbers associated with JRN. If the 14 counties covered by the network were ranked as a single radio market, its combined population of 4.6 million would rank it fifth in the nation, sandwiched between Philadelphia and Washington.

In their home counties, combined, the stations outrank major players in the New York and Philadelphia markets in key demos.

With consolidation everywhere, a selling point for JRN is that it allows the local stations to keep their hometown identities while giving the sales force the ability to compete for the dollars that would usually go to the giants in the big cities.

Gerberding said the company believes in a high level of community involvement.

"That's one of the reasons we built our strategy around New Jersey: We can drive to each station in under two hours and stay really focused."

■ ■ ■

Lee Harris is morning anchor at all-news WINS(AM) New York, and a former station owner. He reported on Phil Stout and the beautiful music format in our July 9 issue.

Light and Airy News in Atlanta

Jacor-owned news/talk stations WGST-AM-FM in Atlanta have launched a "light, airy" format of "news you can use," simultaneously a surrender to their biggest AM competitor, WSB, and an experiment in giving listeners information, advice and "quick, contemporary news."

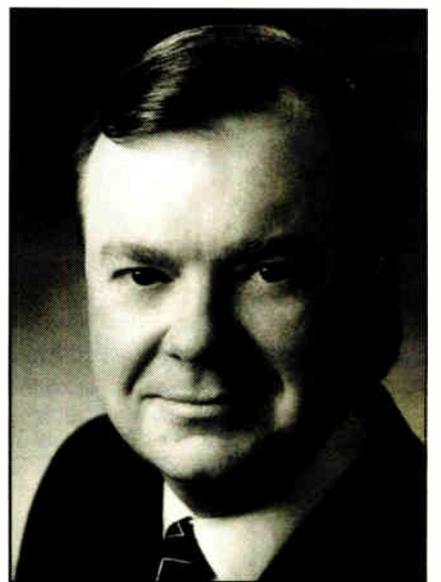
Billing themselves as "Life Support for Busy People," WGST-AM-FM have dropped their "News Monster" cognomen in favor of "PlanetRadio," with new programming described as "rich with the kind of information that helps us plan our days and our lives." The format will air on both stations.

"I guess the big shift has begun from people listening to radio ... to radio listening to people," said Joey Reiman of

Management claims its commitment to local news remains "undiminished," but is now repackaged "in a way that is relevant to your life."

Reiman said it all has to do with the pace of modern living and a culture on the go. "People think in real time," Reiman said. "What people are thinking in real time is, 'I don't want to sit around and listen to news for two hours, or actually an entire news show. What I want are snippets, at my own speed ... information in my own time, in my own world.'"

The PlanetRadio programming changes took effect in June. Ironically, WGST was named Best Radio Station of the Year by the Georgia Association of Broadcasters at an awards ceremo-



Planet Radio Talk Show Host
Dr. Buff

WGST General Manager Bob Houghton said PlanetRadio offers "quick, contemporary news, and topical talk radio that is compelling and entertaining rather than argumentative, and advice that is inviting, not accusing."

Together or apart, the WGST stations have been the ratings runner-ups in the Atlanta news radio battle. The Winter 1997 Arbitron ratings showed WGST(AM) pulling a 1.9 and the FM earning a 2.9, compared to WSB's 9.0.

— Chris Hamaker

WHAT PLANET ARE YOU ON?



the ideation firm Brighthouse, which developed the new format based on trends research from the Yankolovitch Monitor.

Part of this "big shift" apparently is away from the more in-depth news reporting previously offered by WGST.

ny later that month. Stations on the air between Jan. 1, 1996, and May 1, 1997, were eligible for the awards. Five additional awards were handed out to personalities and reporters who have remained with WGST through its transition.

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Know Thy Tower Terminology

Troy Conner

Many of the terms used by ironworkers and tower climbers can be a bit confusing for folks who haven't spent much time around towers, or with crews who work on them. Over the past few weeks I have mentally compiled this short vocabulary list. Following are many common words and phrases. These are the ones that I hear used by old-time tower hands while talking about their work. Readers who have been around towers for years will know most of these, but for the rest, I hope these definitions ease any language bar-

A vast majority of tower rigging terms come from the old sailing world; others have apparently evolved from either appearance or function.

rier between station management, engineers and ironworkers.

This brief list is by no means comprehensive, or at all definitive. A fair number of these words or phrases have other meanings, which can further complicate the issue. A vast majority of the rigging terms come from the old sailing world; others have apparently evolved from either appearance or function. Some of these are slang; where this is the case, I will try also to provide the catalog or textbook equivalent. A number of these may be proprietary phrases or trademarked words; if so I'll probably hear about it.

The second half of this list will run in our next column.

Anco: An Anco is a type of locking nut. An Anco nut has a bit of stiff wire protruding from one face. This piece of wire rides in the threads of the mating bolt, preventing any unintentional slippage. One note: Anco nuts should not be re-used. If they are removed, they should then be replaced.

Basket hitch: This is a technical rigging

term. When a lift sling is only looped under (and not wrapped around) the load, the rig can be called a basket hitch. Other sling configurations include a "straight" lift or "choker."

Beater: Slang for a sledgehammer. Usually preceded by its weight: "Six-pound beater."

Block: A block is just another name for a pulley. Blocks often are referred to by either the diameter of the sheave (the actual roller) or their rated load capacity. Blocks are used to change direction, or to create a mechanical advantage.

Blocks used to direct a cable around an obstacle are called "fairleads."

Bridge strand: Bridge strand is a form of heavy galvanized steel cable. It is used frequently for the guy wires of large structures.

Bridge sockets: Bridge sockets are an end fitting or termination traditionally used on larger bridge strands. The sockets connect the guy cables to the tower and the anchors. Bridge sockets are available in various open or closed spelter sockets. At the guy anchors, the large U-bolts required to adjust cable tension are often called "hairpins."

Bull pin: The bull pin is a tool used by ironworkers to align bolt holes. It is a tapered steel rod that can be driven into a pair of bolt holes, pulling the pieces together. I have watched experienced ironworkers align bolt holes that were so out of line that I was certain we must be using the wrong piece or that it had been drilled wrong. "No, no," they would say, and whip out a tape and verify the bolt spacing. I have heard the

bull pinning of badly mismatched holes called "stretching steel." Similar are "drift pins," which are tapered on both ends.

Button head: A button head is just a round-headed bolt. The folks at a hardware store might call it a carriage bolt. These are dreaded words among tower workers, as they offer no flats for wrenching and are a bear to loosen. Fortunately, button-head bolts are now not often used in the tower business.

Butterflies or butterfly clamps: Flat stainless-steel hangers, which are bent around flexible transmission lines. To be effective, these clamps should be closely spaced, no more than about 6 or 8 feet apart. Butterflies are only part of the hardware needed to properly "hang" flexible coaxial lines on a tower.

Cat head: A cat head, or capstan, (sometimes simply called a rope puller) is a light-duty rope winch. Cat heads can be found on the backs of utility company trucks or on the decks of sailboats. A capstan uses the friction of several wraps of rope to carry a load. A cat



Crosby Clip

Photo courtesy of the Crosby Group Inc.

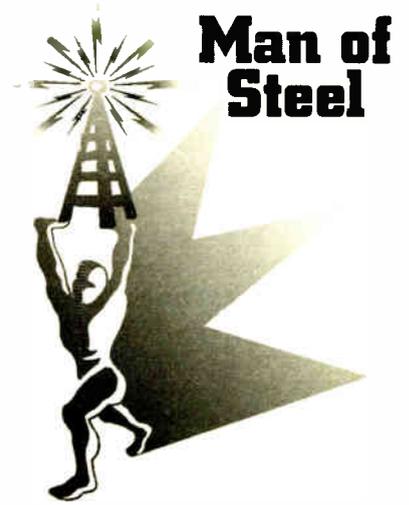
head is only suitable for very light lifts, as the rope must be fed by hand and essentially is unsecured.

Chicken wire: This is the somewhat derogatory term given to climbing safety cables by those who feel that if you really need a safety cable, you've probably got no business climbing a tower.

Chinese finger: Remember as a kid those silly little wicker tubes you got for a prize at the local fair or carnival? The ones that you stuck two fingers into and the harder you pulled, the tighter it gripped? The Kellum Grip, often referred to as a "Chinese finger," is based upon the same principle. A Kellum is a braided steel cable assembly which is laced around flexible coaxial lines. It is used during the initial lifting of a line and later as a support point once the transmission line is in place.

Cold-Gal: Cold-Gal or cold galvanizing is a paint created especially to touch up hot dip galvanized steel which has been chipped, damaged or visibly corroded. Available in spray or liquid form, Cold-Gal can be found in most good hardware stores.

Crosby Clips or crosbies: Crosby is a



Man of Steel

brand of rigging equipment, but their cable clips are so universally used that many riggers just call them crosbies. Crosby Clips are used to connect two pieces of wire rope, or to form an eyelet at the end of a cable. The name belongs to The Crosby Group Inc.

Dynamometer: Usually called a crane scale by those in the field. Crane scales often are used to check the cable tensions of smaller guy wires. A dynamometer is designed to determine (or verify) the weight of an object by lifting it.

Gin pole: A gin pole offers a lifting point above the top of the structure. It is used during erection to lift the individual tower sections. By "jumping" the pole above each new section, it offers the headroom needed to lift the next section. A gin pole also is traditionally employed to install or remove top-mounted FM antenna masts. Some poles have a "track" on which they are "jumped out of the tower." The swivel block at the top of a pole is called a "rooster head," probably due to its appearance.

Girt: The word girt probably comes from girder. Many of the old-timers in the tower industry call any horizontal structural member a girt.

Guy Lug: A guy lug is the chunk of steel welded to the outside of a tower leg to provide an attachment point for guy wires. The guy cable normally is connected to the lug via a spelter socket or shackle.

We'll have the rest of this list in our next column.

■ ■ ■

Troy Conner is the owner of Tower Maintenance Specialists. Reach him by phone at (704) 837-3526 or via fax at (704) 837-1015.

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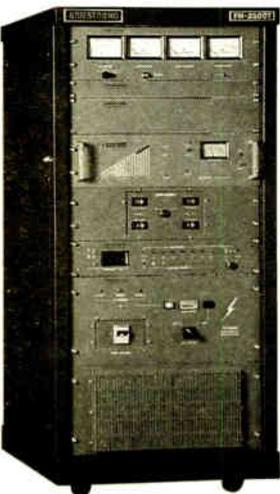
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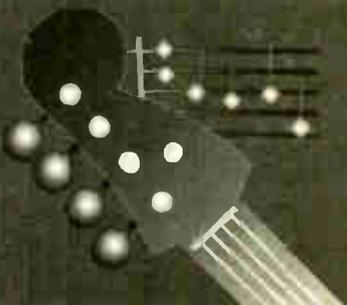
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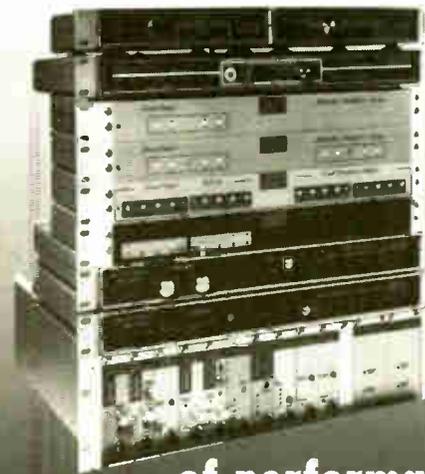
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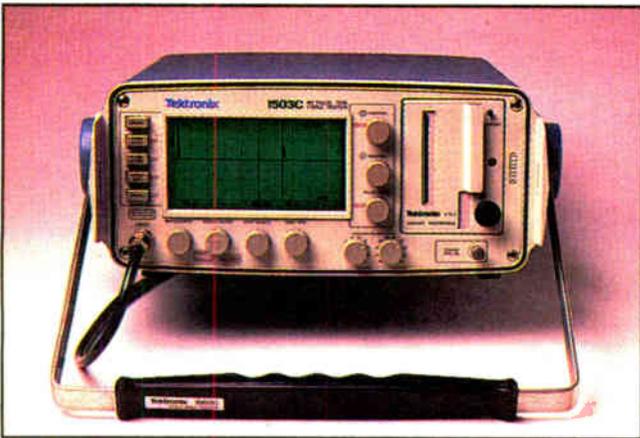
This is the 14th installment in a series about AM antenna systems. The previous article appeared June 25.

We have spent the last year going through AM antenna systems piece by piece. If you have followed this series, you should by now have a fairly good understanding of how AM antennas work.

The previous parts of this series have focused more on the design and construction of AM antenna systems. In the next two, we will consider troubleshooting and repair of AM antennas, giving some practical tips on how to keep an array running properly as well as how to go about mopping up after a disaster.

From time to time, things go wrong with all antenna systems. Things are bad enough when it happens with a simple non-directional antenna. When a multi-element directional array goes haywire, it can be maddening!

The first rule in this situation is *don't*



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panic! The tendency is to grab phasor controls and try to correct the situation immediately; this is the *wrong* thing to do. *Don't touch anything* until you have enough information to make an educated decision of what to do.

Incorrect monitor parameters

Let's assume that one or more of the parameters as shown on the antenna monitor are at variance with their proper values. Start by making a note of the proper values on a piece of paper with the values as read on the monitor alongside. In this way you can quickly see what parameters are at variance. If only one or two values are out of whack while all the others are normal, there is a good chance that the problem is with the sampling system or monitor and the array is functioning normally. As a rule, when something changes in an array due to a component malfunction, all the parameters are affected to some degree. This is because of the mutual coupling between the array elements.

You have probably noticed that if you crank the phase of one tower out a couple of degrees and touch nothing else, there is a change in all the other phases, ratios and base currents in the system in addition to a change in the common point resistance/reactance. The same thing generally holds true no matter what the cause of the original change, be it a phasor control being adjusted or a component changing value.

When an engineer calls me saying that

something is wrong with his array, I always start by asking him if the common point impedance has changed. If it hasn't, we start with the antenna monitor.

A good next step is to check the antenna monitor by swapping its inputs around. A common failure mode in some antenna monitors is a stuck or open relay. The mercury-wetted relays in these units should be trouble-free and long-lived but they tend to wear out over time. I have replaced scores of them over the years. When a relay sticks, it may cause all the tower readings other than the reference tower readings to be incorrect.

Bad relay

To check for this, disconnect all inputs but the reference tower, then connect one of the other tower sample lines to each of the other inputs in turn. You should see the normal indication of phase and ratio for the sample line being used as it is moved from input to input. When you come to a channel where you do not get the correct readings, that is the one with the bad relay. If there is a stuck relay, it tends to load the other channels so while the phase readings may be normal during this procedure, the ratio readings will often be low for all *but* the channel with the defective relay.

Occasionally, antenna monitor sample line terminating resistors can become damaged by arcs or lightning strikes. The symptom will be a very high ratio on one of the antenna monitor channels. Check these resistors with an ohmmeter while the sample lines are disconnected. They should all be very close to the same value.

The detector diode in your antenna monitor is one of those "future failure components" to watch out for. Usually this diode is a germanium type, prone to damage from lightning. If this happens, we hope it will open completely. I have seen them become non-linear, however, giving incorrect readings on all towers. The symptom of this condition will be a significantly changed loop reference setting on the reference tower. If you have to crank that control more than half of one turn to get 100 percent on the loop meter, suspect the detector diode. Another failure mode occurs when a resistance develops in the detector diode. The symptom in this case is excessive ratio meter wiggle with modulation, and all the ratios tend to be incorrect.

Check the sample line

Another possibility is the faulty sample line. You can check your sample lines by running an open circuit/short circuit impedance test on them. This will give you the characteristic impedance and approximate electrical length of each of the lines.

You can also bridge the sample lines open-circuit at an odd quarter-wavelength resonant frequency to determine exactly the electrical length. The best way to check sample lines is with a time-domain reflectometer (TDR). These devices generally are available for rent, and many tower riggers now have TDRs in their shops.

Sample loops can cause trouble, with

welds and insulators breaking. Sometimes high winds can blow loops around so that they are no longer properly oriented. A sample loop should be positioned so that it is perpendicular to the tower face behind it. A good way to check loop alignment is to stand at the tower base and look up at the loop. If positioned properly, the loop should line up with the guy wire. Inspect the loops up close, looking for corrosion, loose connections and hardware, and so forth. Most loops attach to the sample line with an N connector or UHF connector of some sort. Check these connectors for water or corrosion. There may be a copper strap or braid used to jumper from the

connector to the open end of the loop. This strap can easily break loose from the loop. Be sure that it is bonded well to the metal of the loop.

Toroidal transformers can, from time to time, cause problems when used in a sampling system. Some are prone to arc internally when their output is unloaded. While sample lines should always be terminated in the load resistors in the antenna monitor, it is possible that enough voltage could develop at the tower end of a long sample line to allow an arc to occur. If a transformer is suspect, swap it with one from another tower (any but the reference tower) and see if the problem disappears.

Next time, we'll continue our discussion of problems in AM systems.

■ ■ ■

Cris Alexander is director of engineering for Crawford Broadcasting in Dallas.

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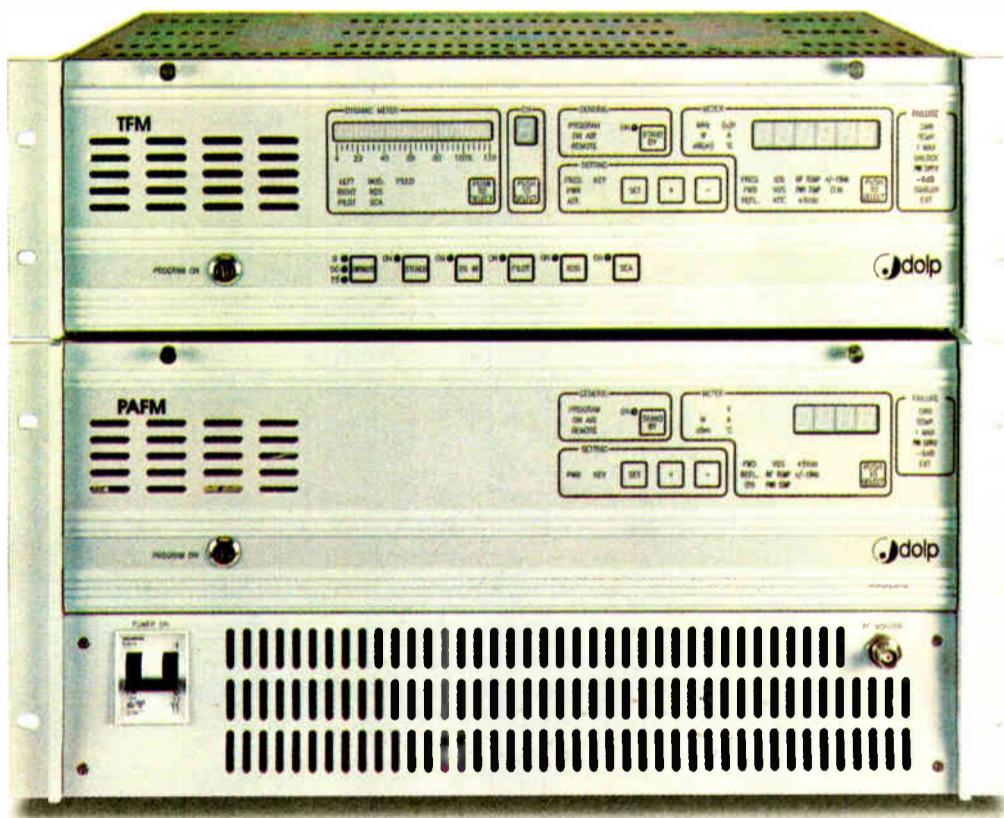
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Pan-Quick LS3 features several fonts, automatic alphanumeric serialization of labels, an optical sensor, liquid crystal display and 49 color-coded keys.

For more information, contact Panduit Corp. in Illinois at (800) 777-3300, ext. 7337; fax: (770) 889-9264; or circle Reader Service 5.

RF Industries Connectors

RF Connectors, a division of RF Industries, introduced a new series of corrugated cable connectors to fit Andrew, Cablewave and Eupen cables.

The connectors are available in 1-5/8, 1-1/4, 7/8 and 1/2-inch flexible and 1/2-inch foam styles; all are available with four interfaces: N Male and Female and 7/16 DIN Male and Female. The universal heads are interchangeable between the 1-5/8 and 1-1/4-inch body styles.

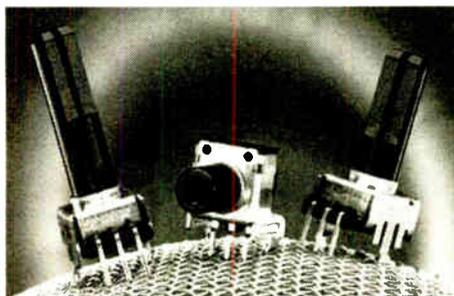


All connectors are constructed of silver-plated machine brass with Teflon insulators and beryllium copper sockets and ground rings. Contacts are gold-plated for N connectors and silver-plated for 7/16-inch DIN connectors.

For more information, contact RF Connectors in California at (800) 233-1728; fax: (619) 549-6345, via e-mail: 102061.2261@compuserve.com or circle Reader Service 31.

Noble Pots

Featuring a film element that reduces noise while providing smooth operation and wobble characteristics, the XV092



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For more information, contact Noble U.S.A. in Illinois at (847) 364-6038; fax (847) 364-6045; visit the Noble U.S.A. website at www.nobleusa.com or circle Reader Service 57.

Svetlana Triode



Svetlana Electron Devices introduced an improved drop-in version of the 3CX6000A7/YU148 power triode for FM transmitters.

The company said the triode is designed with a mesh filament and manufactured with high alumina ceramic doped with chromium and molybdenum. The

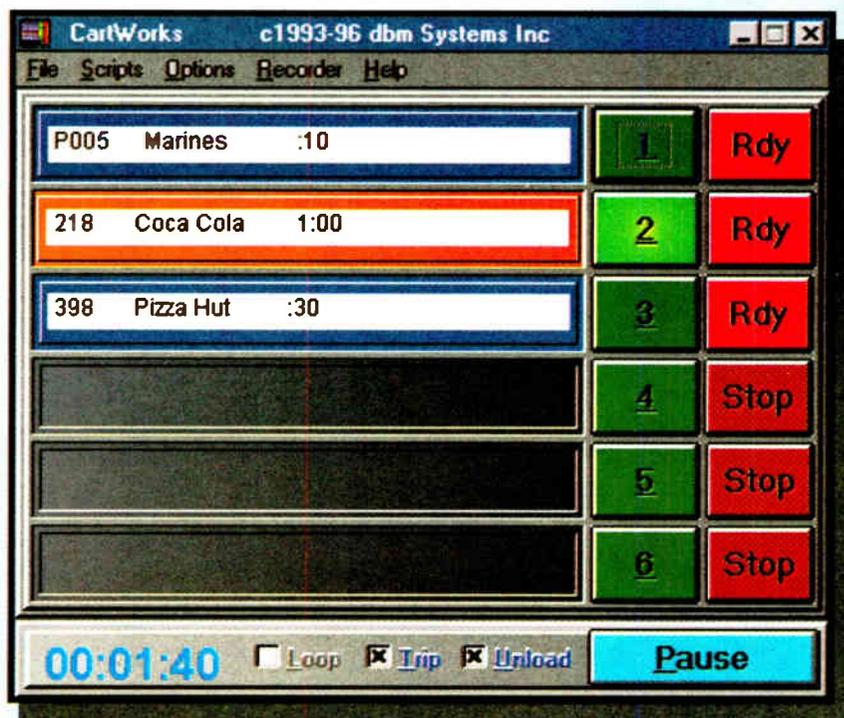
resulting triode, it said, offers a true metal/ceramic chemical bond, providing stronger bond and allowing high processing temperatures.

During vacuum processing, gasses are driven from internal electrodes by high temperature bake-out, extending the life of the triode.

A warranty of 12,000 hours per three years is offered. Each 3CX6000A7 is full-power RF tested at the factory.

For more information, contact Svetlana in California at (415) 233-0429; fax: (415) 233-0539, via e-mail: engineering@svetlana.com or circle Reader Service 109.

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Master the Use of Master Clocks

Tom Vernon

In our last get-together ("Master Clocks Get a New Face," May 28), I began a brief history of master clocks in broadcast facilities, starting with the Western Union clocks, which were self-winding devices synchronized once per hour to the master clocks in local WU offices. Second-generation clocks came along in the early '70s, and had some sort of internal time base and a digital display. Simple ways of syncing these clocks to WWV or WWVB were also described. I concluded with a promise to explore state-of-the-art master clock

systems, which are our topic today. What has changed from second-generation devices to today's clocks? In a nutshell, everything.

From a manufacturer's perspective, the market for master clock systems today is very different from that of 20 years ago. Then, broadcasters comprised the bulk of the business, with a few scattered customers in industry. One of the biggest changes in the market was brought about by the revolution in computer networking. As documents are worked on collaboratively by several workers sitting at their PCs, they are saved on a central file server. In order to save the latest version of a document, the system needs to know when the last user closed it. To do this, there must be an accurate clock on each machine. Internal computer clocks are notoriously inaccurate. A master clock in a network environment will distribute precise time to each machine.

New markets

Police, fire and 911 services are also major customers for accurate master clock systems. Response time to emergency calls must be documented by an accurate time stamp on the machine that logs incoming calls, as well as at other links in the chain.

Another aspect that has changed are the sources of accurate time that a master clock may access. While WWV, WWVB and an external TCXO are still viable options, there are two new players. The Global Positioning System (GPS) satellite system usually is associated with accurate navigation information, but it also provides a very reliable time signal, traceable to the atomic clocks at the U.S. Naval

Observatory in Washington and the Automated Computer Time Service (ACTS) in Fort Collins, Colo. Many of today's clocks have the GPS or WWV receiver or modem built in, and are contained in an enclosure only one rack unit high.

Slave systems

There are several options for delivering a signal from the master clock to the slave units. While 12 V pulses for impulse clocks and BCD for digital displays are still options, modern systems also provide serial time code. Some of the more common time codes in use are

timebase input usually is included. In some instances, a time code converter may be required between the master clock and the automation system to convert to ASCII, or whatever is required.

Program loggers have come a long way from open reel machines running at 15/16 ips. Modern loggers frequently use DAT tape and are capable of recording several audio channels simultaneously. These devices can take a feed from a master clock, to record time of year in days, hours, minutes and seconds.

Back it up

As you can see, it's easy to become dependent on a master clock, to the extent that failures could be traumatic to your operations. As with transmitters, it's good to have a backup. Some clock systems have an optional automatic

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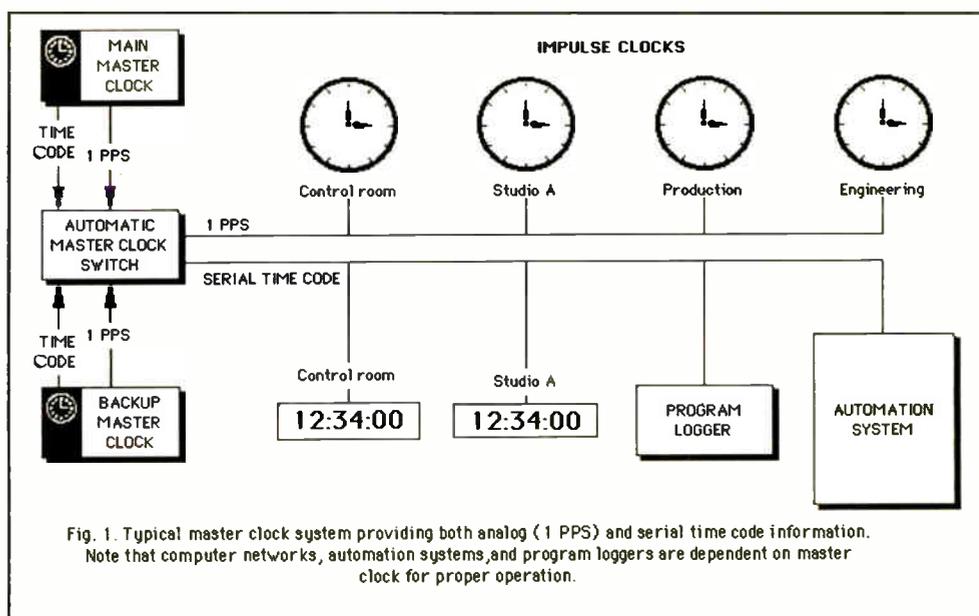


Fig. 1. Typical master clock system providing both analog (1 PPS) and serial time code information. Note that computer networks, automation systems, and program loggers are dependent on master clock for proper operation.

In the event of a threat of missile attack or other emergency, the Department of Defense can scramble the GPS signal, rendering your clock system useless.

Observatory. GPS has some advantages over WWV as a time reference. Because the signals are delivered by satellite, it is not subject to the seasonal and daily fading which are common in some parts of the country. Propagation delay, which limits the accuracy of WWV, is also not an issue.

Lest you get swept away with GPS, remember one caveat when you purchase a master clock that relies on it. GPS is a military system, intended to be used by military vehicles and aircraft for navigation. In the event of a threat of missile attack or other emergency, the Department of Defense can scramble the GPS signal, rendering your master clock system useless for the duration. Although this scenario seems unlikely in today's political climate, it is something to think about.

Some master clocks access accurate time through a modem. Typically, they dial in from one to four times daily for an update. The most common references

IRIG-B, SMPTE/EBU, ASCII and ESÉ.

Although new to broadcasters, IRIG has long been the standard for military timing applications. The advent of GPS brought IRIG-B to a larger audience. WWV and WWVB use a modified version of the IRIG-H code to transmit time

switching system. In the event that time code from the main clock is lost, the system automatically switches to a backup clock, and alerts you to the failure.

Most master clocks display the time on their front panel in GMT, as this is what's available from the references. That's easy for the clock, but hard on your air staff. A time zone offset feature corrects from universal time to local time, sparing your jocks the grief. Automatic daylight savings time correction takes the process one step further, making the clocks virtually maintenance-free. Analog slave clocks are available that can run off both impulse and serial time code. The beauty of running them off time code is that they are self-resetting after an outage. If you've ever had to reset a number of impulse clocks with a jeweler's screwdriver, you'll appreciate what a blessing this can be.

Our discussion may have left you with the impression that master clock systems are quite expensive. While it's easy to drop about \$4,000 on an elaborate system, economy models are available. For less than \$400, you can get a master clock that uses the 60 Hz line frequency as the timebase, and provides both 1 PPS impulse and serial time code outputs.

Special thanks to Brian Way of ESE and Bill Clark of W Clark & Associates for their assistance with information used in this article.

■ ■ ■

Tom Vernon divides his time between consulting and completion of a Ph.D.

Comments about RW articles are welcome. Send them to Managing Editor, Radio World, P.O. Box 1214, Falls Church, VA 22041 or via e-mail to 74103.2435@compuserve.com

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READER SERVICE NO. 127

DCI Provides Audio and Data Net

Alan R. Peterson

This is the second in a three-part series on digital delivery systems, the services that send commercials and music in digital form to radio stations via ISDN and POTS phone lines. The first part appeared July 9.

In our first look at digital delivery systems, we examined the procedure and technology used by MUSICAM EXPRESS. With this installment, we delve into two-way digital distribution, this time exploring the technology offered by Digital Courier International of Vancouver, British Columbia.

The unusual aspect of the DCI system is that, unlike other services in the same arena, DCI does not actually consider itself a distributor. Rather, DCI refers to itself as a "system designer," licensing its methods to operators of existing high-technology ISDN communications services already in place.

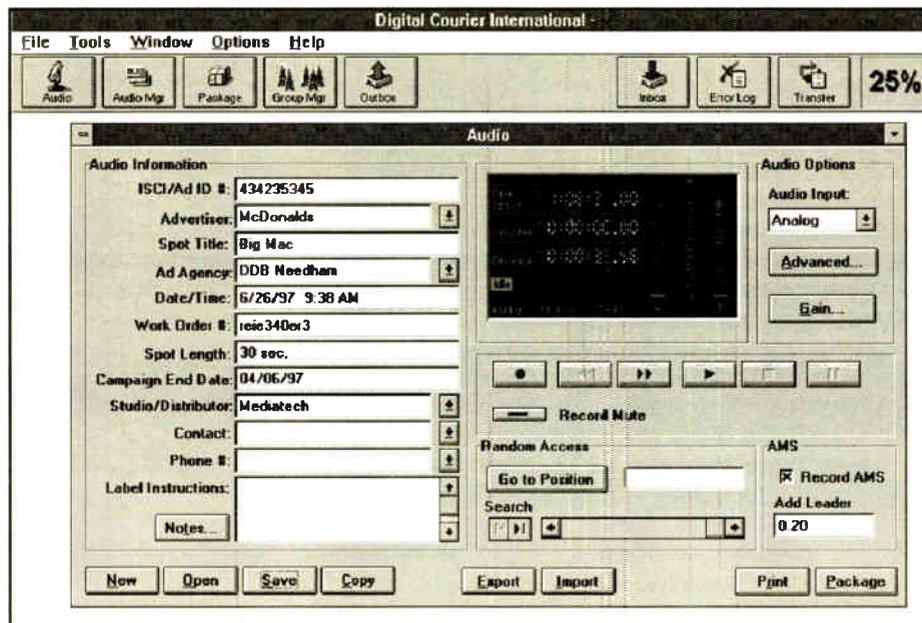
And DCI does not stop at audio distribution. It is also an information "spine" that can be used by a number of co-owned stations spread out over great distances, exchanging traffic instructions and sales data as well as audio. In short, DCI can be a wide-area network (WAN) or a corporate intranet for all stations in a broadcast company.

DCI's ability to transmit and receive audio from any terminal makes the system a true two-way pipeline for audio and information exchange. This fact is not lost on DCI customers, now numbering well over 4,200 radio stations, duplication companies, production studios and record companies.

DCI President Allan Kozak said, "We designed the software and built the network. We license a third party as the distributor."

Program material is delivered via ISDN by existing carriers such as Vyvx, MultiMedia, Mediatech and others. On each station's screen, however, "Digital

Kozak said, "Two-way capability enables us to address the needs of local distribution. From what we've heard from stations, they love the fact that



The DCI Audio Window

Courier" is what comes up on the window bar; the carriers remain transparent.

No traffic jams

When audio enters the system, it can be routed anywhere in the network without first having to go through one central clearinghouse. On the local level, one station can port dubs of spots directly to all other stations equipped with a DCI terminal in the market.

Without first making the trip to a single common point, audio is not "stacked up" in a queue and delayed. Very fast transmission between stations is possible.

they can exchange programming and production with other stations in their area."

There is a national insertion point to the system in Vancouver, but again, locally distributed material need not be routed through it to be sent to nearby stations.

Station terminals consist of an MPEG Layer II-capable soundcard and

Music releases from the motion picture 'Batman and Robin' were distributed via the DCI system.

an ISDN modem, built around a conventional Pentium PC. Software that handles automatic delivery of audio and data is included. Audio can be played directly off the terminal or transferred into a station's digital audio system.

Loaded but locked

As is the case with other delivery services, it is possible to do mass simultaneous sends to lots of stations over the DCI system. This was done in Canada on May 8 for the release of musician John Fogerty's single "Walking In a Hurricane," and is being done again for single releases from the "Batman and Robin" movie.

DCI terminals at client stations kept a "time lock" on the music so no one station could "leak" the song ahead of any others. For the Fogerty single, 67 hit radio and album rock stations received the single, but were kept from unlocking it until 8 a.m. local time.

Herb Forgie, director of national promotions at the U.S. division of Warner Music Canada, said, "No matter what happens with the track (in terms of reaching the distributor), we know we can just push a button and get

it out right away. DCI is also preventive medicine for leaks. ... No stations can jump the gun in terms of getting the song on the air."

Corporate thread

What makes the DCI system attractive is its ability to link stations together in a two-way wide-area network, not merely across two or more floors of an office building, but literally from coast-to-coast. One such structure is in place at Paxson Communications in West Palm Beach, Fla. The company uses the DCI system to exchange audio, sales figures and projections, corporate memos and more among its stations.

In a hypothetical scenario, say a station in Boston has a male/female character dialogue spot to produce. Boston transmits copy to the ideal female character voice at the San Diego station with the notation, "Just cut your part and 'DCI' it back to me." At her opportunity, the voice talent in San Diego records her wild lines and sends them off to Boston as a digital audio file for assembly and mixdown.

Across the hall, the sales manager is firing off monthly reports to the corporate office while new traffic instructions for Chevrolet and Pepsi are being prepared for co-owned stations in Dallas and Cincinnati.

Engineers at all company stations simultaneously receive new policy regarding their EAS receivers. A funny song parody from the morning show in Chicago arrives at the Phoenix station, in CD-quality stereo.

These are all examples of what a chain of stations linked via the DCI system is able to accomplish.

Ready-made net?

How about the possibilities offered by Internet exchange? With such a huge infrastructure already in place, how hard would it be for stations to simply e-mail and attach their audio and data to others in the chain with simple 'net-surfing' software? Why go through a service like DCI?

Kozak said, "We are investigating the Internet for certain things. But for audio exchange, it's trouble. To begin with, all PCs must have the same software. And because you have no real control over the Internet, you cannot guarantee the quality of service."

A station routing through a commercial ISP (Internet service provider) cannot be assured a consistent rate of transmission. The more popular services can have data rates drop down to the tens of bytes per second range during peak times. A single large audio file could take an hour or more to download.

The DCI numbers speak for themselves. Kozak reports 90 percent of DCI business is in delivering advertising and short-form audio. As of March 24, station-to-station sending accounted for 10 percent of all DCI network traffic. And, Kozak said, "Station-to-station is the first of many services that we plan to provide our radio station customers in the months to come."

Next issue, the granddaddy of them all: Digital Generation Systems.

■ ■ ■

For information on Digital Courier International, contact Allan Kozak at DCI in Vancouver, Canada, at (604) 415-3300.

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KEYBOARD CONNECTION

Windows Utilities Solve Problems

Barry Mishkind

Once upon a time, 4 kB of memory was "standard" and 16 kB was a major upgrade. At IBM, designers felt "no one will ever need more than 64 kB of memory." The user was expected to load programs from cassette tapes.

Then MS-DOS (the Microsoft Disk Operating System) appeared, and computers began to come equipped with floppy disks, and even "huge" 5 MB hard drives. Many users wondered if they would ever use up all that storage space.

Today we see programs with .EXE files themselves bigger than 5 MB. As operating systems became more complex and filled with features, the "code bloat" has stunned many a user. Not long ago, my \windows\system directory alone had grown to more than 530 files taking up 65 MB of storage space!

Whether you like Windows or not, the fact remains: If you regularly need to run more than one application at a time or use enhanced graphics capabilities, Windows is the way to go.

I thought I had taken precautions. I'd partitioned my C: drive with 250 MB of space. Yet, inexorably, it became impossible to install many programs because they demanded free space missing on the C: drive. Worse, ill-behaved programs continued to crash my system, even under Windows95, which is touted to be much more resilient to crashes than Windows 3.1.

Perhaps you have some of these hassles too. Let's explore some solutions.

Partitions are good

Of course, some might consider my problem simple: There shouldn't be any partitions. Yet, there are several good reasons you should have multiple partitions on your hard drives, regardless of size.

A partition is like a wall on your hard drive, separating sections from one another. Within partitions, space is set aside in "allocation units." This is the smallest piece of hard-disk real estate consumed by a file. For example, if your partition is under 127 MB, each allocation unit is 2 kB. In other words, if you have a small text or batch file of 35 bytes, it still takes 2 kB of space on your drive. The other 2,013 bytes are wasted space. For a file larger than 2 kB, the computer allocates more units in 2 kB blocks, until the entire file is stored.

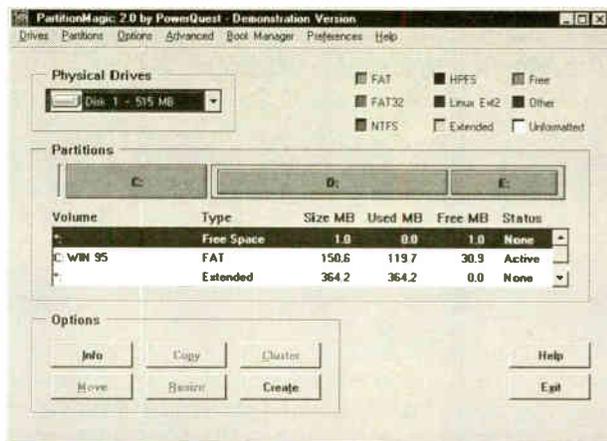
Now, here is where it gets interesting — or scary, depending on your viewpoint. On the newer gigabyte and larger hard drives, if there are no partitions to reduce the drive sizes, allocation units can grow to 32 kB. Yes, that same 35 byte file now wastes 32,733 bytes of space! On large hard drives, as much as 40 percent of available disk space can end up wasted.

Some folks will argue that, with more than a gigabyte, such waste isn't relevant. For some people, that may be. Nevertheless, there is a more compelling reason to partition your hard drive, related to the nature of files, their storage and hard-drive maintenance.

When you write a file to your hard drive, it fills the first open cluster, and then looks for the next open cluster. Depending upon the size of the file, this can (and often does) result in severe

fragmentation of the file. In addition to slowing the system down as it searches for the fragments, it can also lead to data loss or corrupted data. As you add, delete and change file sizes, the fragmentation can grow rapidly. For this

PartitionMagic lets you actually change partition sizes without reformatting and losing data. In less than five minutes, I added about 150 MB to my C: drive, and all my space hassles went away. No reformat needed. No fuss, no



PartitionMagic

muss. PartitionMagic is highly recommended if you want to add, delete or manipulate your hard-drive partitions. It also supports NT and HPFS (OS/2), and will even update drive letters.

Crashproof?

One of the major benefits attributed to Win95 was relief from the dreaded GPF (General Protection Fault) and accompanying system lockup. While Win95 does tend to have fewer

reason, several utilities are available to defragment your hard drive.

Perhaps a more compelling reason is to pave the way for easier backups. Keeping your programs on one partition and data files on another makes it much easier to locate and back up the key files which represent your work product and/or livelihood.

Better backups

For example, I keep my word processing and spreadsheet files on my drives E: and F:, along with other frequently changed directories. Backing up the key files no longer requires me to run repeated backups of all the program directories, saving time and hundreds of megabytes of backups.

Back to the problem of a C: drive with no space. In the past, the only solution was to change partitions, reformat the hard drive and reload everything. But last fall at COMDEX, I saw a program that makes repartitioning a snap: PartitionMagic 3.0 from PowerQuest.

of these problems, some cyber potholes remain on the road to getting your work done. Sometimes they result in rather cryptic messages telling you the system is locked because of an error at some strange address.

One problem recently highlighted in the computer trades concerns DLLs. These "linked library" files are designed to be used by many different programs. Sometimes, though, when you load a new program, a different version of a .DLL file loads, causing other programs to lock, or die.

In fact, as you load more and more programs, the likelihood of some interaction increases, causing some applications to exit less than gracefully. Indeed, some 90 percent of all Windows problems are caused by software conflicts. Finding them, and discovering why they cause your system to balk, can be frustrating.

A solution is provided by diagnostic programs like First Aid 97 from CyberMedia and PC Handyman from Symantec. These two packages provide

enhanced protection against program crashes and more. They analyze your Windows setup and can even fix many problems automatically. First Aid 97's Windows Guardian and Symantec's Norton CrashGuard both attempt to intercept and prevent crashes. The programs usually will permit saving of data that would otherwise be lost, and suggest methods of preventing reoccurrence.

Actually, First Aid 97 and PC Handyman are sophisticated technical support systems of which you interactively ask questions, to solve your problems or simply understand what is happening. You can find helpful assistance for problems such as setting up a printer or checking the sound and video functions on your multimedia setup.

See WINDOWS, page 54

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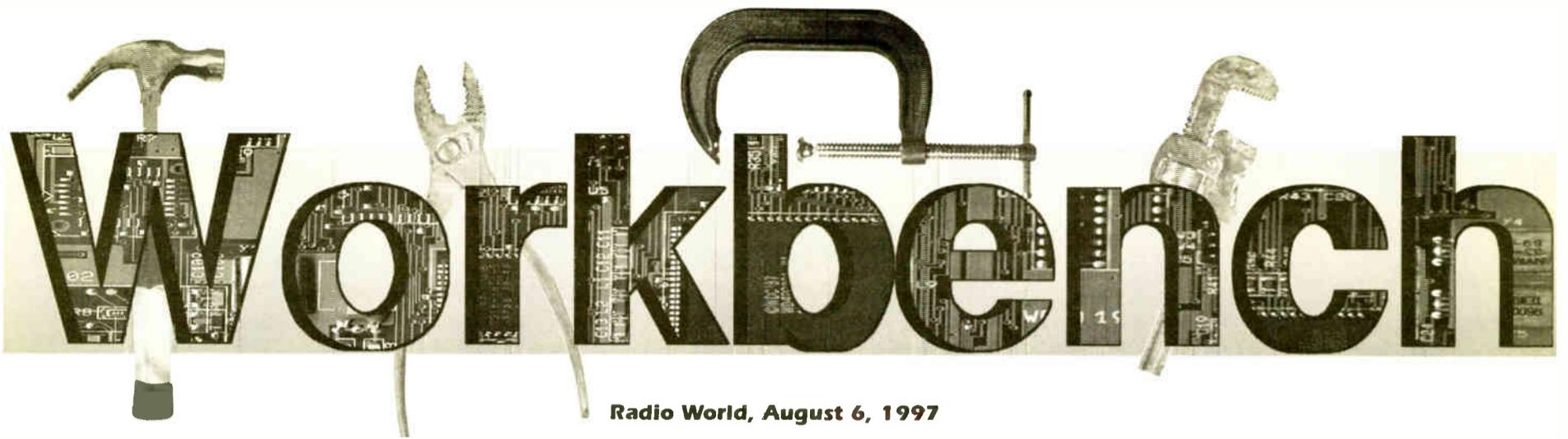
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Radio World, August 6, 1997

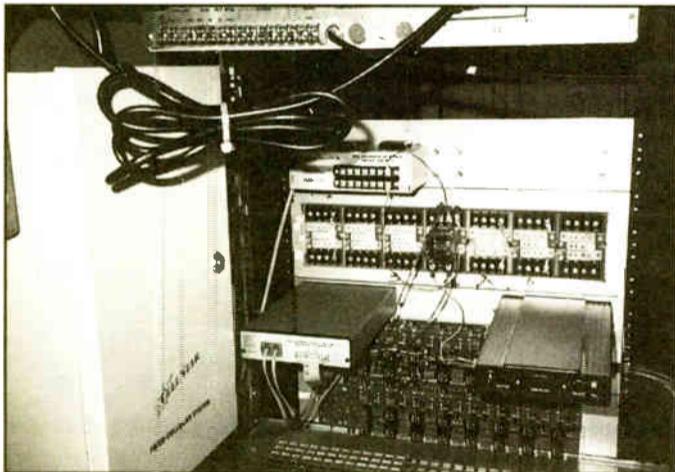
Lightning Protection: Cheaper Than Repair

John Bisset

With the potential damage from lightning that occurs this time of year, spending a little in the way of prevention can save you both time and money later on. For coaxial lines that come into a transmitter building, Andrew Corp. has a new surge protector called ARRESTOR PLUS. This one-piece connector/surge arrestor incorporates the technology of a quarter wave shorting stub into a connector that attaches directly to the coax. All three versions of the ARRESTOR PLUS are equipped with a threaded mounting stub for easy mounting to a ground bar or lead. For more information, circle Reader Service 135.

★ ★ ★

Figure 1 solves the problem of mountain-top phone lines that are always down in storms. A fixed cellular telephone system is tied into the Sine Systems remote



A fixed cellular system thwarts downed phone lines for mountain-top transmitters.

control. Powered by a BEST UPS, callout is facilitated when the weather gets bad and the phone lines, the power or both are knocked out at this mountain-top site.

★ ★ ★

Bob Hoffman at Emmis Broadcasting in St. Louis sent the following tip for Studer A807 reel-to-reels to our on-line address, wrbench@aol.com

Bob was plagued with an unusual failure of two decks from two separate studios. When the decks were powered up, the machine logic/control totally locked up, and the capstan motors ran backwards constantly. The power supplies looked good, the processor clocks were running, and there were no obvious clues.

In desperation, Bob removed the command panel containing the play/record and speed select switches and tape counter. In addition, each of the soft-touch switch actua-

tors were removed, as was the associated membrane. The residual dust, tape particles and gunk were cleaned from the circuit board, particularly the printed circuit switch pads. After assembly and power-up, each deck worked perfectly. Apparently, some foreign body on the circuit boards will short and lock up the system. The board is prone to catch residual dust and tape particles through a small gap between the command panel and the tape deck.

As strange as it sounds, this simple "repair" may save you a lot of troubleshooting time and calls to Studer. You will need a couple of Allen wrenches, small pliers, a can of compressed air (like 70PSI), some cotton swabs, and about 30 to 45 minutes per machine. Bob Hoffman can be reached at bhoffman@stlnet.com

I'd like to relate another tip for the same model. A few years back, we had a client whose Studer machines went nuts. This would usually occur after they had been moved from one studio to another, or moved around within a studio. We popped open the panel and found that about a dozen razor blades used for editing had fallen through the gap that Bob described. Some had fallen down next to the PC boards, and, we surmised, rattled around

as the machines were moved. Why they hadn't burned up the whole machine, I'll never know.

Our fix was quick, simple and cheap: a piece of duct tape. We cut and folded the duct tape, placing it underneath, so it covered the entire gap between the command panel and the tape deck. The tape acted like a hinge, which flexed when the panel was opened up, but prevented debris from entering the compartment.

★ ★ ★

Our *Workbench* business contact file is attracting some attention. Thanks for faxing me your favorite non-broadcast companies to share with other engineers. Everyone has found a special company that does something unique, something broadcast engineers need from time to time. Fax it in, and we'll share it with the readers of *Workbench*!

Unless you are budgeted to purchase the new telephone hybrid systems that do away with the keyset, you're going to have to keep maintaining those multi-button phones in your studio. IDACOM Telecommunications concentrates on the repair and refurbishment of electronic key telephones, cards, key service units and 1A2 key telephone sets.

The company has been around since

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1981, and recently relocated into a new, 7,500-square-foot facility. Their new home includes an in-house painting booth for the refurbishment of plastics. Bottom line: Next time your keyset dies, or you get tired of looking at all the dead KSUs lying on the floor in the phone closet, give these folks a call. Here's their contact information, for future reference.

Share your "finds" with your fellow engineers. Fax the cards of companies you couldn't live without to my attention at *Workbench*, (703) 764-0751.

★ ★ ★

Gary Crouch, CE for WCEM-AM-FM in Cambridge, Md., showed me a neat way of correcting the common jock complaint, "All I'm getting out of the satellite is static!"

After some pretty stiff winds, the consumer dish had wiggled enough that the dish had slipped off target. The little actuator motor used to align the dish ran on 24 V, but the network that supplied the dish didn't spring for a controller. Time to rummage through the junk box.

Packed away was Gary's son's 1958 Marx electric train transformer, which provided a nice, variable AC output. Gary hooked up the output to a fullwave bridge, and ran the output to a DPDT switch, which he used as a polarity reverser for when you overshoot the bird. With the variable voltage, you can really slow the motor down and zero in on the signal. Gary keeps the setup on his bench ... except during Christmas, when he sets up the trains!

★ ★ ★

Ed Somers is the service manager for Location Sound in North Hollywood, Calif. I spoke with him recently regarding

some battery problems we had with a portable recorder. He offered some good advice: Should you ever open a recorder and find the cells have leaked, check to see if any are reversed. If none were reversed, take a good photograph before removing the batteries. Battery manufacturers will not warranty equipment if the cells were reversed. A photo is your only proof.

Reach Ed at (818) 980-9891.

■ ■ ■

John Bisset is a principal with Multiphase, a technical services company. Reach him at (703) 323-7180. Printed submissions qualify for SBE recertification credit. Fax submissions to (703) 764-0751, or send them via e-mail to wrbench@aol.com

Computer First Aid

► WINDOWS, continued from page 53

If you're wondering about these programs staying current with the newest updates and fixes to programs, you will be pleased to learn that they can update their knowledge bases automatically via connection to the Internet. CyberMedia also has a program called Oil Change, which can do this for all your applications.

Of the two diagnostics, I'd give the edge to First Aid 97. While both are packed with features and add-ins, First Aid 97 includes a free copy of Dr. Solomon's FindVirus (a subset of Dr. Solomon's Anti-Virus Toolkit). Viruses continue to proliferate, especially over the Internet. This is a valuable add-in that you ought to have.

Let's finish this look at utilities with a free one. A major source of Win95 problems is "orphaned" entries in the Registry, which causes Windows to go looking for files and drivers which may have been deleted but are still in the Registry. Microsoft has placed RegClean 4.1 on its site at www.microsoft.com/kb/articles/q1477/69.html for free downloading. Get yourself a copy and clean out your Registry. You may find it reduces or eliminates many crashes and bad shutdowns.

■ ■ ■

Barry Mishkind is a long-time contributor to *RW*. He also writes regularly about radio pioneers.

Digital Studio, Analog Price

Russ Mundschenk

The author is chief engineer of WBEB(FM) in Philadelphia. This article is based on a paper he presented at this year's NAB convention.

When WBEB's 15-year-old studios needed to be rebuilt, it seemed silly to continue linking our digital equipment in the analog domain. The quality and programmability of digital audio storage and transmission make for a more versatile broadcast facility.

After all, the only devices that didn't store audio as "1"s and "0"s were a couple of cassette and reel-to-reel tape decks and microphones.

Back in 1994, nobody had the hardware to tie everything together digitally, or even do a good job of converting analog audio to digital, at least at prices radio broadcasters could afford. Luckily a cost-effective mixer and A/D converter were being developed by Harris Corp. and Benchmark Media, respectively.

The Harris DRC-1000 mixer and the Benchmark AD2004 converter both support an AES/EBU transmission format known as AES3-ID. The 75-ohm, 1 Volt unbalanced "ID" standard allows the use of some off-the-shelf video cabling as well as distribution and switching equipment such as DAs, routers and patch bays.

The more-familiar 110-ohm balanced AES3-1992 format specifies special cable and transmission devices, but shares the same software protocol. Luckily, the two can be interfaced with a \$50 balun transformer.

The AES/EBU transmission system relies on the time of state transition (low to high or vice-versa) to determine the data value. Left and right digital audio is sent as "packets" of information called sub-frames, frames and blocks. Each sub-frame carries a single channel's audio sample digital word, along with synchronizing and coordination data.

All this information requires a lot of bits, so the serial data stream ends up looking more like video than audio. This is a good analogy, because the bandwidth of a digital audio signal can exceed that of TV!

Treating AES/EBU audio as if it were video (or AM-band RF, for you dyed-in-the-wool radio folks) is good practice. Always use the manufacturer's suggested interconnect cable, even for short runs. Impedance mismatches, along with interference, introduce jitter.

Likewise, high-capacitance wire causes low-pass filtering of the square wave, rounding off its corners and confusing the AES receiving device.

Helpful tips

In an effort to minimize these problems, we designed WBEB's new digital studios according to the following criteria:

Use the proper interconnect cable. Belden 1505A for the 75-ohm AES3-ID format or Belden 9207 110-ohm Twinax for AES3-1992.

Run the same cable type in conduit for electrostatic shielding. This goes for digital runs as well as analog. Keep dissimilar cables apart and cross them at right angles if necessary.

Run UPS-conditioned primary AC power in separate conduits. Keep neutral-to-ground potential as low as possible by using isola-

tion transformers or UPS units that reestablish the neutral-ground bond as close to the studios as possible. Tie this bond point to the studio's point of common ground. Run separate ground wires to each outlet circuit and tie to neutral-ground bonding point.

Establish a house AES/EBU reference standard. If each digital source can be synchronized to a stable common AES/EBU signal,



Jennifer Wu sits at the WBEB digital console.

all the inputs to a mixing console arrive perfectly aligned, eliminating the need for individual synchronization at the input. This uses less DSP horsepower, and it generally sounds better.

Unfortunately, not all digital devices have external synchronization capability. Make sure your console does.

Minimize the number of rate and analog-to-digital conversions. Conversion from one sample rate to another requires intermediate sampling at a common multiple of the two rates or several conversions at sub-multiples.

Even though most state-of-the-art converter chips produce artifacts well below -100 dB, multiple conversions introduce progressive degradation.

The same goes for analog-to-digital conversion. The process of quantization always involves the approximation of instantaneous amplitudes and introduces noise at every conversion.

Leave plenty of headroom. Most of us have heard the effects of audio peaks hitting a digital "brick wall."

With at least 96 dB of dynamic range available, it makes sense to leave at least 20 dB of margin between the highest peak excursion expected and the digital clipping point.

Employ at least 20 bits of quantization. A 20-bit system affords an extra 24 dB or so of dynamic range. This provides a comfortable headroom cushion while still retaining an extended operating level noise floor compared

to 16-bit. A 20-bit signal may also be reduced to 16 bits with fewer artifacts.

Choose a console carefully. Make sure your prospective digital console has at least 32 bits of preferably floating-point mix bus resolution. The products of many mixed digital words can become big numbers, especially when processing is added.

Assuming not all source devices can be synchronized to a house standard, make sure rate conversion and synchronization is available, preferably on the AES receiver chip and separate from the main DSPs. This way the main DSPs can be freed for other tasks, such as on-board effects.

The control surface should allow any fader or switch to be assigned to any input(s) or

output(s) for on-air dayparting or production recording session recall. An ideal implementation would be for all consoles to be interconnective so any input could be accessed in any studio.

Choose an A/D converter carefully. As I mentioned in an earlier RW user report, we believe that analog-to-digital converters, like microphone preamps, should be outboard of the console. If we keep all analog audio within the studio, we eliminate noise and hum on inter-studio runs.

Because all studio I/Os are available at digital patch bays in a central equipment room, audio transmission format uniformity is important to studio interconnection.

A/D and D/A converters are the most upgradable devices in the digital studio. Also, only some of the few available digital consoles make the output of their internal A/D converters accessible.

An A/D converter should not only be able to jitter-reduce and synchronize to an external AES reference signal, but also noiselessly transfer to its internal clock should the signal fail or be out of range.

Cost vs. performance

Broadcast digital consoles are at a break-even point with comparably equipped analog units. Digital switchers, patch bays and cabling become cost-effective when decreased part count and ease of installation are considered.

Even today's early digital broadcast mixers are cost-effective, and the price may drop considerably in the face of competition. As with any infant computer technology, bugs do appear. It may be in the best interest of some broadcasters to wait to see how things shake out.

At WBEB, however, we have experienced few problems and are looking forward to full digital facility integration, and possibly DAB, in the near future.

■ ■ ■

Reach the author at (610) 667-8400. RW encourages other points of view.



Dielectric Communications



Lewis Kling of Dielectric Communications

announced the appointment of **Lewis M. Kling** as the company president. Kling spent the last three years with Allied Signal Corp. as senior vice president and general manager of the Commercial Avionics Systems division,

and chairman of the board of the American Russian Integrated Avionics joint venture.

Dielectric, a unit of General Signal Corporation, is based in Raymond, Maine and makes TV and FM broadcast antennas, transmission line and RF components.

Award-winning journalist **Charlayne Hunter-Gault** will join **National Public Radio** as the chief correspondent in Africa. Hunter-Gault, who spent 20 years with PBS, will begin reporting from Johannesburg, South Africa on Sept. 1.

Among many accolades, Hunter-Gault has won a Peabody Award for her work on a series on South African life, "Apartheid's People." She won the 1986 Journalist of the Year Award from the National Association of Black Journalists, and has also won the American Women in Radio and Television Award.

Public Radio International veteran **Mary Hawkins** has been chosen to break new ground; she will head the new On-Air Promotion and Fundraising Department.

Her task is to communicate PRI's promotion and fund-raising materials, and to consult with stations, producers and industry experts to create successful fund raisers and promotion packages.

Julia Atherton has accepted an offer from **ABC Radio Networks** to fill the position of director of marketing. Prior to her appointment, Atherton worked as director of marketing and promotions for KHKS(FM), a top-rated station in Dallas.

Also at ABC Radio Networks, **Denise Kessler** has been named manager of promotions and merchandising and will be based in New York. Kessler has worked as a project manager and a non-traditional media/event marketing planner for New York media firms.

Jones Radio Network has found a new director of affiliate sales: **Michael Henderson** will



Michael Henderson at Jones Radio Network

oversee the sales department and eight regional sales managers. He has 25 years of broadcast, communications and research management experience. Most recently, he worked as vice president of sales and marketing for

Paragon Research Inc., a radio research and consulting firm in Denver.

ON THE JOB

Ace the Job Interview Process

Sue Jones

You have done your homework to get yourself a new job at another station. You have developed a strong and reliable group of friends and colleagues in your "network." You have put together a concise résumé (along with an air check, if you are a jock) that details your career accomplishments and gives you a strong edge.

Your hard work and persistence have paid off. You now have an interview with one of the top stations in your market or possibly a bigger market.

Preparing for the interview may be the most important thing you can do to get the

job. This four-part series provides a checklist that covers interviewing basics.

The basics

1. Find out as much about the station (owner and/or group owners) as you possibly can before the interview. This is especially important if you are interviewing outside your market. Focus on the basics: mission, market size, ratings, format, revenue, key staff, owner(s), general manager and department heads.

When you demonstrate to the interviewer that you have taken the time to learn about the station, it says you have already invested time and energy for the station. This

factor alone can put you ahead of other candidates who rely only on their résumé and interviewing skills.

2. If you are interviewing in a new market, learn as much about it as possible. Shock jocks do not play well in some conservative market areas. Conservative, low-key announcers may not have the required street smarts and attitude appeal for a large metropolitan market. On-air talent must be matched to the station's specific market just as other key employees must. You may be great with country music, but bomb out with contemporary urban or classical formats. Be able to respond knowledgeably to

the question: "Do you know this market?" You also need to know the competition in that market.

3. Research a new market's cost of living compared with the salary that is offered. If you are offered \$10,000-\$20,000 more per year, it may seem like a tremendous increase and you may not think twice about it. But you may find that the increase will just barely cover your higher cost of living in the new, more expensive area. So you have not really moved ahead, just stayed even. Many employers recruit talent from smaller markets and pay below-market price for them. Do some cost-of-living and compensation research before you accept an offer in a new market. Your local library has statistics for all major areas of the country.

4. Enthusiasm for the job and the type of work you seek is critical. You may be the best engineer or traffic director in a radius of 1,000 miles, but if you show little or no enthusiasm for the type of work or for the station, you will lose out, perhaps to a less-experienced or less-qualified candidate who is eager to help the station dominate the market.

Look and act the part

5. If you work in the more technical areas such as engineering or finance/accounting, evaluate your interpersonal skills. Although knowledge and field skills are vital for the position, you must interact with all of the other staff members. Managers look not only for the necessary skills for the position, they look for personalities who will fit with the other staff members. One-word answers (yes and no) to the interviewer's questions can leave him wondering what you are really like, how you think and what ideas you can bring to the station to contribute to its success.

6. Dress professionally. This means a business suit for men or women or possibly a conservative dress for women. The business world is accepting more casual attire, but do not make your first impression in casual clothing. Even if jeans and a shirt are more suited to your type of work (especially engineers) than is standard business dress, arriving at an interview professionally dressed demonstrates that you understand the importance of image in a business environment and can conform to it when necessary.

7. Be on time for the interview. If you are unsure where the station offices are located or how long it may take you to get there, do a dry run the day before to make sure you know the exact distance, location and where to park. Circling in traffic to find a parking space can cost precious time. Arriving late wastes the interviewer's time and makes you appear disorganized. Plan for the unexpected traffic jam.

If you know you will be late, call the interviewer as soon as possible to let her know of the extenuating circumstances and offer to reschedule. If you accept another position before your scheduled interview, call the interviewer as soon as you know so she can pursue other candidates. Do not just fail to show up for the interview. The radio industry is too close-knit to leave a record of inconsiderate behavior.

We'll continue next time with a discussion of interview questions and answers.

Sue Jones is a principal in a communications management firm located in the Washington area. Contact her at (703) 503-4999.

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Chairman and CEO of CBS Station Group, Karmazin has spent his career not only building his Radio business, but also building the business of Radio. Join us as he is honored at the NAB Radio Luncheon.

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A pioneer in entertainment programming, Bob Pittman began his career in Radio, first as a disk jockey and then as a program director for top rated stations. Infamous as a brand builder and innovator, Pittman has successfully applied his philosophies to businesses such as MTV, Six Flags Theme Parks and most recently CENTURY 21 and AOL. Come hear his unique perspective on the future of Radio, communications and entertainment.

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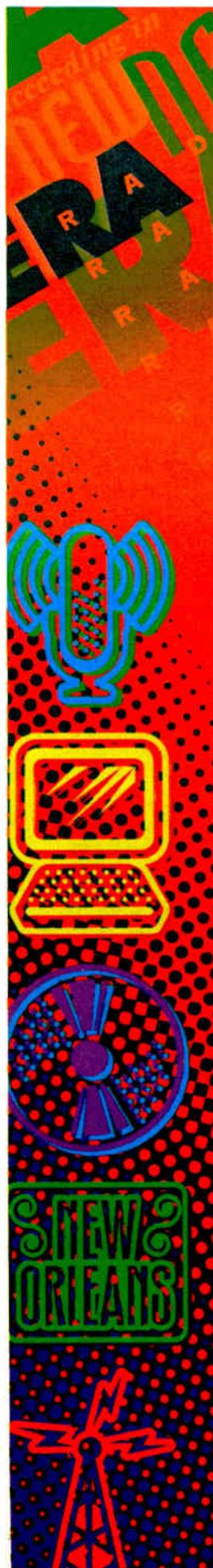
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Macintosh MC60 tube amp, will pay fair price for single working unit in nice cond. C Collins, Grunert Sound, 1977 S 74th St, Milwaukee WI 53219. 414-327-4141.

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Want to Sell

Isocoupler 1-5/8" line, \$500; Andrew 3-1/8" 5' rigid, \$200; Delta torroid RF pickup w/meter 5 amp, \$400. D Rose, KDUC, POB 250, Barstow CA 92312. 619-256-2068.

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Want to Buy

Gates MO-2996A limit amp service info wanted & need to purchase another unit. CK Bucy, Cisco Sound, POB 16583, Lubbock TX 79490. 806-792-1662.

Compressors & EQs, tube

and solid state. W Gunn, Box 2902, Palm Springs CA 92262. 619-320-0728.

AUTOMATION EQUIPMENT

Want to Sell

Arrakis Digilink CD controller w/(4) Pioneer 18 disc changers, vgc, \$1000/pkg; Format Sentry 12B controller, BO. J Antonuk, KCBF, 3528 Intl Way, Fairbanks AK 99701. 907-452-5121, johna@polar-net.com

Belar FMM-1 mod mon tuned to 92.7 & Belar FMS-1 stereo mon, \$1000/BO; Belar RFA-1 FM RF amp tuned to 92.7, cracked meter, otherwise OK, \$250/BO. L Fuss, WDTL, POB 1438, Cleveland MS 38732. 601-846-0929.

Schafer 903E parts; Audiofiles; Revox A77; ITC 750; SMC 450 Carousel, \$300; SMC pwr supplies, \$50. D Rose, KDUC, POB 250, Barstow CA 92312. 619-256-2068.

Smartcaster digital automation system, (2) 1.2 gb internal drives, monochrome monitor, used for SMN/Hot AC format, \$3500/BO. L Fuss, WDTL, POB 1438, Cleveland MS 38732. 601-846-0929.

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Howe console parts; Harris stereo 80; amps. D Rose, KDUC, POB 250, Barstow CA 92312. 619-256-2068.

SMC DP-2 System tech manuals & pwr supply. P Galasso, WOBM, 1015 Atlantic City Blvd, Bayville NJ 08721. 732-269-0927.

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analog, BO. T Leonard, WMC, 1960 Union Ave, Memphis TN 38104. 901-726-0582.

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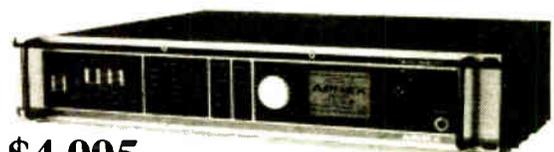
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SMC 452 Carousel, \$300; BE cart recorder, \$300; ITC 3D 3 deck cart, \$300. D Rose, KDUC, POB 250, Barstow CA 92312. 619-256-2068.

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Orban 2200/AES-EBU digital Fm optimod w/AES-EBU option, as new, \$3200. P Christensen, Christensen Prod, 11142 Raley Creek S, Jacksonville FL 32225. 904-619-3899.

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Neumann U87 (3), \$1695 ea. T Phillips, 419-782-8591.

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Scientific Atlanta 7300 rcvr w/7.5, 15 K cards, \$1200. D Solinske, WSUN, 877 Executive Ctr W, St Petersburg FL. 813-576-1073.

Wegener 1601-50 mainframe, STS-RX, 5 port, pwr supply, \$150. H Goggan, KGNV, POB 87, Washington MO 63090. 314-239-0400.

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Hickok 6000A tube tester, mint cosmetics, works perfect, extra roll chart, \$325/BO. A Sandoval, El Sotano, 500 N Columbus, W Liberty IA 52776. 319-627-2470.

EICO 950B resistance/capacitor comparator bridge, \$50. H Goggan, KGNV, POB 87, Washington MO 63090. 314-239-0400.

Heath 10-14 oscilloscope, lights up, has broken knobs & connectors, looks gd, \$165. R DeMars, Robert DeMars Prod, 222 Lakeview Ave, W Palm Bch FL 33401. 561-832-0171.

Want to Buy

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D. Combination AM/FM station F. Recording Studio
 A. Commercial AM station K. Radio Station Services
 B. Commercial FM station G. TV station/teleprod facility
 C. Educational FM station H. Consultant/ind engineer
 E. Network/group owner I. Mfg, distributor or dealer
 J. Other _____

II. Job Function

A. Ownership G. Sales
 B. General management E. News operations
 C. Engineering F. Other (specify) _____
 D. Programming/production _____

WTS WTB Category: _____
 Make: _____ Model: _____
 Brief Description: _____

 Price: _____

Production Director	.....Lisa Stafford	Ad Traffic Assistant	.....Anastacia Stornetta
Production Manager	.....Lisa Hoagland	Desktop Management	.....James Cornett
Publication Manager	.....Lori Pikkaart	Ad Coordination Manager	.....Simone Mullins
Classified Coordinator	.....Lori Pikkaart	Circulation Director	.....Sheryl Unangst
Showcase Coordinator	.....Vicky Baron	Circulation Manager	.....Robert Green
Ad Traffic ManagerKathy Jackson	Accounts ReceivableSteve Berto

Advertising Sales Representatives

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A-6000 Studio Furniture delivered March 1995
A-6000 Console S/N 22536 delivered March 1995
R-16 Console S/N 22557 delivered March 1995
SP-5 Console S/N 22593 delivered April 1995

1995 Academy of Country Music Award
1995 Marconi Country Music Award
1995 Billboard Country Music Award
1995 Country Music Association Award
1995 Country Music Association SRO Award
1995 Gavin Country Music Award
1996 Gavin Country Music Award
1996 Academy of Country Music Award

Wheatstone Model A-6000 Audio Console shown

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