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**Great Promotions in  
Running Radio  
See Page 40**

# Radio World®

Vol 21, No 12

Radio's Best Read Newspaper

June 11, 1997

NEWS ANALYSIS

## Radio Stocks Prime Investment

by Vincent M. Ditingo

**NEW YORK** From an investment perspective, the future in radio is now.

The fears held by some radio broadcasters that the industry and its consolidation process will be re-regulated and stock values of publicly traded companies will stagnate if the Department of Justice (DOJ) continues to intervene in station transactions, should be put to rest.

That is the message from radio's financial community, which views the long-range benefits to ownership consolidation translating into a steady climb in stock values during the late 1990s.

When the DOJ began to scrutinize large radio group deals last fall — mostly centering on publicly held radio companies — for potential antitrust violations, the move creat-

ed an atmosphere of uncertainty among group owners and investors alike.

During these announced investigations by the DOJ, the radio stock index began to plummet, as much as 22 percent from early October through the end of 1996, according to research from Prudential Securities in New York.

"The radio industry was blind-sided by the DOJ inquiries into the large deals," said James Marsh, vice president/senior publishing and broadcasting analyst for Prudential Securities. "At the same time, many Wall Street analysts, knowing the competitive marketplace for all media, were also surprised by the DOJ scrutiny of radio," says Marsh.

However, since the DOJ found itself involved in radio dealmaking, the government agency only has intervened in a pend-

ing station group sale on a couple of occasions and, to date, forced the selling of stations in just three situations.

Meanwhile, stocks for most publicly traded radio companies are on the rebound, outpacing the aggregate of all other small cap stocks, as measured by the Russell 2000 index, as well as stocks measured by the S&P 500 index. (When measured by the value of their equity, radio stocks are considered to be small capitalization or small cap stocks, generally falling under \$1 billion).

Marsh notes that radio's upswing in 1997 is being fueled by the exceptional stock performances of Clear Channel Communications, which registered one of its strongest first quarters ever, along with Evergreen Media. It is also important to stipulate that growth in the all-inclusive small cap stock category is being hindered partly by the poor showing of several technology stocks (See Chart A).

There still, however, exist several DOJ "risk factors" when it comes to consummating radio group deals. In particular, eyebrows will be raised by DOJ officials

when a station or group transaction passes what the DOJ views as a 35 percent to 40 percent threshold of a market's radio revenue by the acquiring company. And the DOJ intends to scrutinize the advertising sales arrangements in all new LMA deals.

### Increasing valuations

Spurred by a good economy, Marsh predicts no reduction in both cash flow growth rate forecasts and margin assumptions in the foreseeable future, providing a good entry point for small cap stock investors.

See STOCKS, page 12 ▶

## Meet the NAB Radio Board Candidates

**WASHINGTON** The National Association of Broadcasters' Radio Board, which directs the association on issues pertaining to radio, will hold elections for chairman and vice chairman at its summer meeting June 21-24 in Washington. Vice Chairman Howard Anderson, president and CEO of KHWY Inc., is running unopposed for the chairman spot, and Chairman Richard Ferguson is running unopposed for chairman of the joint board.

The most heated race is for vice chairman, in which three candidates, all current board members, are competing for a one-year term. RW Associate Editor Matt Spangler spoke with each of the candidates about their backgrounds, the role of NAB in today's radio industry and how the board will shape the policy of the association.

*Michael McDougald is president and CEO of McDougald Broadcasting Corp., licensee of WRGA(AM) and WQTU(FM) in Rome, Ga. He begins his second term as a board member this month. He is also a member of the Georgia Association of Broadcasters Hall of Fame.*

**RW:** Why do you feel that you should be elected to this position?

**McDOUGALD:** Anybody that serves on the board could well handle the job and do the NAB proud. But I think that some of us might have had more varied experiences, and I feel that I'll bring those experiences to the table.

I actually worked in almost in every size

market (and station) that American radio offers. I've been 50,000-watt clear-channels, I've been 250-watt local, I've been

See BOARD, page 6 ▶

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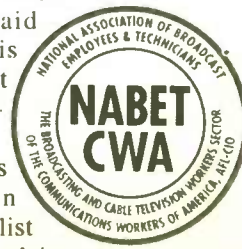
## Comments Ignite Controversy in Touchy Talks

by Sharon Rae

**WASHINGTON** Officials of the National Association of Broadcast Employees and Technicians-Communication Workers of America say they have never abandoned radio or their radio membership. They were responding to angry reaction by union members to a story in RW (see April 2).

In that story, John Krieger, NABET-CWA network coordinator and chief union spokesman in current contract talks with The Walt Disney Company's ABC Television and Radio operations, said "NABET-CWA is essentially out of the radio business."

Krieger was commenting on labor law specialist Michael Lotito's claim



See NABET, page 13 ▶

# NEWSWATCH

## ABC Rolls Out Radio Disney While Suit Rolls On

**DALLAS** ABC Radio Networks launched its children's network, Radio Disney, nationally.

ABC, the nation's largest network, test marketed Radio Disney in Atlanta, Minneapolis, Salt Lake City and Birmingham, Ala., beginning last November. The returns on the test exceeded network expectations, according to ABC Radio President David Kantor.

"The response from the kids and their parents was matched by the interest of the advertisers and the radio industry," he said. ABC is now accepting affiliates for

Radio Disney.

Christopher Dahl, president and CEO of children's network competitor and former ABC/Disney partner Radio Aahs said: "It is clear ABC/Disney is trying to do something similar to CBC (Children's Broadcasting Corp.), though, we believe we have a superior product in our 'Aahs World Radio.'"

The CBC lawsuit with ABC/Disney, which alleges the latter used their partnership "to obtain confidential business information ... (in order) to develop and market a competing children's radio network" was ongoing at press time. ABC would not comment on the suit.

In other ABC Radio news, correspondent Lisa Rolland won the 1996 Lowell

Thomas Award for best radio news reporting of foreign affairs for her report "Land Mines: the Survivors' Perspective."

## Arbitron Says Accountability Key for Advertisers

**NEW YORK** A group of national advertisers convened at Arbitron headquarters in April to discuss the effect of the ratings giant on key issues the advertising industry faces.

Advertisers in attendance included Alamo-Rent-a-Car, Anheuser Busch, Chevrolet, Coca-Cola USA, Pacific Bell, The Stroh Brewery and Wells Fargo &

Co. The two-day Advertiser Leadership Conference also featured such speakers as Judy Carlough, executive vice president of the Radio Advertising Bureau and Dave Braun, a media and marketing consultant based in the Northeast.

"The key issue for the advertiser today is accountability," said Henry Laura, vice president, sales and marketing, Advertiser/Agency Services at Arbitron. "Arbitron's primary goal for the first Advertiser Leadership Conference was to demonstrate that we are accountable for delivering reliable, actionable databases that work to increase the effectiveness and efficiency of media schedules."

The recent controversy over the airing of alcohol advertising was not discussed at the conference.

See NEWSWATCH, page 3 ▶

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# Dusk of the Age of Quello

by Matt Spangler

**WASHINGTON** Putting a cap on a 23-year career that saw him accomplish such feats as take on Howard Stern and Sen. Al D'Amato, R-N.Y., on the issue of indecency, and lead the Federal Communications Commission through the allocation of spectrum for digital television, Commissioner and former Chairman James H. Quello is expected to step down at the end of this month.

The communications industry lavished praise on the "Dean of the FCC." More than 1,000 gathered at the Omni Shoreham Hotel



Commissioner James H. Quello

in Washington in late April to honor him. Chairman Reed E. Hundt had many kind words for his colleague: "Jim's 23 previous years at the Commission demonstrate many of the characteristics that define honorable service in government and that have won him the commendations he will receive tonight.

Last month he received a special lifetime achievement award at the International Radio & Television Society Board of Directors Foundation Awards Luncheon.

National Association of Broadcasters President Edward O. Fritts also praised his leadership and soundness: "Jim Quello has for more than two decades provided regulated industries with wise counsel and senior leadership. He has a unique ability to trans-

late complex policy questions into common sense regulation."

As for his "retirement" plans, Quello has indicated that he would accept a chair at Michigan State if it were offered to him. That may all hinge on how rapidly a successor is named for him. Sen. Conrad Burns, R-Mont., chairman of the Senate Subcommittee on Communications, said in April that Congress hoped to hold confirmation hearings in June. FCC General Counsel William Kennard is expected to be the White House nominee to replace Quello.

## Liquor is quicker ... never sicker?

Hundt continues to be President Clinton's point man in the realm of alcohol advertising. At a forum on the subject sponsored by The Cato Institute last month, Fred Meister, president and CEO of the Distilled Spirits Council of the United States, had sharp words for the chairman, who had made an off-the-cuff remark about "liquor being quicker" — in other words, intrinsically more harmful than beer or wine.

"By singling out spirits and making ignorant statements," Meister said, "Mr. Hundt is sending a very dangerous message to the public and our nation's youth."

Meister said Hundt has no business passing judgment on booze. "Mr. Hundt clearly does not understand nor has tried to educate himself about alcohol ... It is obvious that Mr. Hundt is unfit to preside over this debate and that he should recuse himself from the issue immediately."

The issue, as DISCUS sees it, is that liquor is no worse than beer or wine, and should thus be treated equally — a contention supported by government data and alcohol advocacy groups such as Mothers Against Drunk Driving. In fact, a group of 240 health and education organizations, including the American Academy of Pediatrics, the American Academy of Family Physicians, the American Public Health Association and Children's Defense Fund, filed a petition with the FCC asking it to examine all alcohol advertising, beer and wine included.

Blair Levin, Hundt's chief of staff, insist-

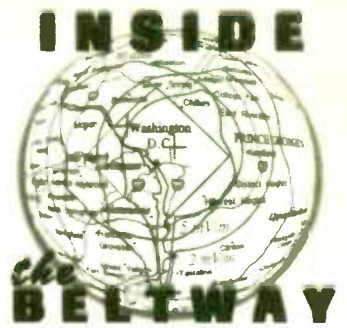
ed that the commission is still only in a fact-finding stage, and has not issued a directive yet. However, "Meister is doing everything he possibly can to prevent us from gathering the facts."

Meister once again called upon the beer, wine and spirits industries to devise a common code for advertising, but this time he invited broadcasters to come on board as well.

Many politicians have also questioned whether the Federal Trade Commission, not the FCC, has jurisdiction over alcohol advertising. "The FTC clearly has jurisdiction," Levin said. "There's an overlap, but it's concurrent jurisdiction. But they're answering a different question ... We're looking at a public interest question, and that's broader."

Though most broadcasters have refused to air hard liquor advertising, DISCUS has not relented on its efforts to "educate" them on the legal ramifications of the FCC's attempts to intervene. Elizabeth Board, director of public issues for DISCUS, said that the council is waging a direct mail campaign with broadcasters, and that Meister has spoken before a number of state associations (next stop: California in July). How are the broadcasters responding? "Amazingly positive," said Board. "They see the hypocrisy."

Some in Washington think that trying to get on the airwaves is a desperate ploy by the liquor distillers, whose market share had dropped 40 percent in the years preceding



A Roundup of News and Comment Affecting Radio From the Nation's Capital

last November's announcement.

## A few comments on the comments on commenting

One of the tenets of the Reed Hundt commission has been the effort to streamline many of its processes — he never seems to tire of lauding that Web site, for instance. Now, the commission has proposed using that site for another purpose: the filing of comments.

A notice of proposed rulemaking out last month asks for comment on whether comments on rulemakings should be allowed to be filed electronically (is that redundant or what?). Of course, prospective commenters would still be allowed to comment via mail, if they so desire. Larry Schecker, an attorney adviser in the Office of the General Counsel said the service "would open up new ways for the public to communicate with the commission using the new technologies that are available."

Comments on the NPRM were due May 21, and reply comments were due June 5.

## NEWSWATCH

▶ NEWSWATCH, continued from page 2

### NAB Licensing Committee Asks for Support

**BALTIMORE** The National Association of Broadcasters Radio Music License Committee called upon broadcasters to support its efforts to negotiate a new music licensing contract with licensing organization BMI. Negotiations with ASCAP were completed last year.

Stations are asked to help in three ways. First, they can write a letter to the committee authorizing it to represent them in the negotiations. Address the letters to: RMLC, P.O. Box 18915, Baltimore, MD 21206. Call RMLC Executive Director Dave Fuellhart, at (410) 893-8471, with any questions.

Second, stations can contribute to the RMLC, which may need additional financial support if the matter goes to court. RMLC has established a "fair share" formula whereby stations contribute based on their revenue: stations with revenue up to \$150,000 should give \$100, for \$150,000 to \$500,000 contribute \$200 and

\$350 for \$500,001 to \$1,000,000. Contributions can be sent to the same address.

Finally, call RMLC Chairman Randy Bongarten, (212) 247-8717, to volunteer or with any suggestions.

### MAB Hosts Management Retreat

**LANSING, Mich.** The 48th Annual Meeting and Management Retreat of the Michigan Association of Broadcasters is July 25-27 at Shanty Creek Resort in Bellaire, Mich.

Al Ries, chairman of Great Neck, N.Y., marketing firm Ries & Ries, is the keynote speaker of the retreat. His company has represented, among other clients, Infinity Broadcasting, Emmis Broadcasting, the Radio Advertising Bureau and M Financial Group. MAB will also hold a number of educational sessions and its annual golf and tennis tournaments.

Registration is open to members and non-members. Call (800) 968-7622 for information.

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# Hundt to Leave FCC; Radio News

**WASHINGTON** Hot off the AP Wire. literally at this moment, news that FCC Chairman Reed Hundt announced his resignation. Hundt has agreed to stay on until a successor can be found. Do you realize this means that three of the four FCC commissioners are on their way out? Quello — retiring. Hundt — resigning and Chong, not renominated. Add the one vacant seat and the new FCC will have a completely new makeup. Hopefully broadcasters will not get lost in the shuffle.

We will have more on this in the upcoming issue of RW.

\*\*\*

This issue of RW, like every issue of RW, is packed with great stuff. In particular, I'd like to draw your attention to our *Focus on Field Audio* pages.

In that section, you'll find excellent field audio stories from Lee Harris, Sharon Rae, John Diamantis and Al Peterson. An article by NPR's Rich Rarey came to us with some personal snapshots from the field. Below he poses by graffiti near Tel Aviv. Rich uses a Sony D-10 pro DAT machine (modified to record absolute time), a Stereo Sonosax mic preamp, two Neumann KMR81 shotgun mics in zep-pelins, and Sony headphones. You can also see Rich in action in our section banner at the top of page 16.



Rich Rarey records the sights and sounds of Tel Aviv.

The trustees of the Ennes Educational Foundation Trust recently created the Robert D. Greenberg Memorial Scholarship. The scholarship recognizes the contributions made to broadcast engineering by Robert Greenberg, who died unexpectedly on March 20. Greenberg was an 18-year employee of the Federal Communications Commission and a member and supporter of the Society of Broadcast Engineers.

The scholarship will be awarded to an individual pursuing a career in broadcast engineering, with the first Greenberg Scholarship to be awarded next month. Applications may be obtained from the Ennes Educational Foundation Trust, 8445 Keystone Crossing, Suite 140, Indianapolis 46240; or call (317) 253-1640.

Remember that donations to the Greenberg Scholarship are tax deductible and can be forwarded to the same address. The entire donated amount will go toward funding the scholarship.

\*\*\*

The Public Broadcasting Service named Andy Butler director of engineering earlier this year. He had been serving as communications system engineer at PBS since March 1995.

In his new role, Andy will oversee the PBS engineering department, including its broadcast operations and engineering units.

Many of you know Andy from his days as marketing manager for Broadcast Electronics in Quincy, Ill., where he worked from 1994 to 1995. Prior to that Andy was a staff engineer at the National Association of Broadcasters (1992 to 1994)



Andy Butler

and prior to that he was director of engineering at WBAL-TV in Baltimore (1989 to 1992).

\*\*\*

CBS Radio Chairman and CEO Mel Karmazin will receive the National Association of Broadcasters National Radio Award. The presentation will take place during the Radio Luncheon on Friday, Sept. 19, at the 1997 NAB Radio Show in New Orleans.

NAB Senior Vice President/Radio John David said: "Mel is acknowledged as one of the most successful and influential people in radio, and this award recognizes his many achievements and contributions to the business."

Karmazin joined CBS in December of last year as a result of the merger between Infinity Broadcasting Corp. and Westinghouse (which had just acquired CBS). The resulting mega-group was named CBS Corp., of which CBS Radio is part. It has more than 75 major market radio stations and annual revenue greater than \$1 billion. Karmazin also is president and CEO of Westwood One, a distributor of news, talk, sports and entertainment radio programming.

Prior to joining CBS, Karmazin was president and CEO of Infinity Broadcasting for more than 15 years. Under his leadership, Infinity Broadcasting was rated one of "America's Most Valuable Companies," by Business Week magazine and "America's Most Admired Radio Group" by both CEOs and station managers in "Duncan's Radio Market Guide."

\*\*\*

The National Association of Radio Talk Show Hosts has invited President Clinton's



by Lucia Cobo

former political consultant and pollster, Dick Morris, to deliver a keynote speech at its Talk Radio '97 convention. Scheduled for June 19 - 22, the convention will be held at the Century Plaza Hotel in Beverly Hills, Calif.

Morris will speak on a special national poll that he is commissioning and designing specifically for the talk radio industry, at the Friday, June 20, gala luncheon. The poll will analyze audience composition along with audience interests, concerns problems and tastes. Listeners' opinions of big name hosts and programs also will be solicited as well as a variety of general information.

NARTSH is promising the results of Morris' research along with never-before-told background information about the Clinton administration's "relationship with talk radio." (I'm not sure what that means but it sounds ... hummm ... odd?) Anyhow, if you are in the talk radio business, this convention is a good place to be. Call NARTSH at (617) 437-9757 for more information.

\*\*\*

The NAB will participate, for the first time, in the Organization of Chinese Americans Career Fair, July 18 - 19, at that association's annual national convention in Chicago.

The OCA Career Fair will include a broadcasting career center featuring the NAB Employment Clearinghouse as well as Tribune Broadcasting, the Illinois Broadcasters Association and Rep Temps Inc. Representatives from both the radio and television industries will be on hand to discuss job opportunities from entry level to management. For more information, access the OCA website at <http://www2.aru.net/oca> or phone them at (202) 223-5500.

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## READERS FORUM

If you have comments for Radio World, call us at (800)336-3045 or send a letter to Readers Forum (Radio World, P.O. Box 1214, Falls Church, VA 22041 or e-mail 74103.2435@compuserve.com or MCI Mailbox #302-7776). All letters received become the property of Radio World, to be used at our discretion and as space permits.

### Move radio to VHF

Dear RW,

Regarding all the angst over local radio going digital:

Why not move local radio broadcasters onto digital-only carriers in the VHF slots being vacated by television stations? Unless I'm doing my math wrong, we could fit all of the Washington-area radio stations into two of the four VHF television channels, assuming current FM bandwidth limitations. Current market coverages could be maintained — no more messy AM band with troublesome skywaves — none of the difficulties of the Eureka plan — who could ask for more? Certainly the underlying principles are the same as for the TV migration.

Sure, this plan could not even begin until the TV stations had finally let go of their analog licenses, but wouldn't everyone be able to relax once a consensus

plan was grinding to fruition?

The final step would be to let the FCC auction the current AM and FM radio allocations to the benefit of the federal treasury.

David Sproul  
Bethesda, Md.

### Stern: Dumbing down

Dear RW,

Regarding Alan Haber's article, "Stern's Bio Pic Is Boffo" (April 16): In spite of intense national publicity, Howard Stern's "Private Parts" opened number one at the box office and dropped out of sight quickly after that. Thankfully not everyone in America was so mesmerized by the film. Stern impresses me as being part of the dumbing down and coarsening of American culture — on par with Beavis and Butthead. He uses crude language and shock theatrics to create a persona that is



Howard Stern

otherwise lacking in wit and insight. I know no other middle-aged man that plays the role of the obnoxious adolescent better than Stern.

Radio stations that serve up this programming have done nothing to raise the quality of life in our communities. The fact that Stern's program is a morning program — rather than late night — is most unfortunate.

Scott Seeburger  
Saginaw, Mich.

### Hams and towers

Dear RW,

The letter "Keep a Ham Happy" (April 16) could have been titled "Serve Your Community Through Improved Response and Recovery." The kind of ham radio I have been paid to deal with for 35 years is that which serves public safety and public service; that's my job. (I have also been in broadcasting for 47 years.)

Speaking for California, the majority of the broadcasters make their high-elevation sites available at no cost or a token pittance to public safety/public service response organizations such as the Radio Amateur Civil Emergency Service, Amateur Radio Emergency Service, Civil Air Patrol, etc. A "private" or some club repeaters, on the other hand, should not qualify for such favored treatment if it is not a documented participant in such life-saving services. The non-ham reader should understand: Not all hams have the same interests.

Such unselfish precedents have been

## Counting Radio's Assets

A short five years ago radio owners and managers were hard pressed to find a silver lining in the tough economic climate of 1992.

In 1997, shortage of capital to purchase stations is but a dim memory of an era of banking mistakes made in real estate and other such industries. We said back then that the underpinning of radio was solid enough to weather any

such external pressures. That is still true.

Financial speculators who came into the business to make a quick buck and get out are mostly gone. The Telecommunications Act of 1996 delivered the de-regulatory relief that broadcasters had demanded for years. Local marketing agreements, duopolies and mega-groups, coupled with technological developments that help cut costs and create much needed efficiencies of scale have allowed the radio business to boom for 20-plus months straight.

The fears held by some radio broadcasters that the industry and its consolidation process would be re-regulated and stock values of publicly traded companies would stagnate if the Department of Justice (DOJ) continued to intervene in station transactions, is fading (see story, page 1).

That is the message from radio's financial community, which views the long-range benefits to ownership consolidation translating into a steady climb in stock values during the late 1990s.

The upside is supported in two ways: (a) Radio currently continues to underperform. The medium garners roughly 7 percent of total advertising revenue yet accounts for roughly 40 percent of media consumption; (b) The new mega-groups can steer and foster the development of national dollars for radio as agency clients shift from mass-reach advertising to targeted advertising — the lion's share of which to date has gone to cable and niche magazines.

An increase of just 1 percent in radio's share of advertising would mean more than a billion dollars for the industry. Better sales efforts, leaner and larger operations, enhanced technology and focused marketing efforts will continue to prove radio a fundamentally sound business for years to come.

—RW

observed for decades by tower and site owners. As long as there is space available, as long as the ham radio installation meets professional equipment and installation practices, and there is proof that the licensee serves public safety and public service (there is a difference), then every positive consideration should be given to reasonably accommodate the applicant in the interests of public safety, health and convenience.

Stan Harter  
Executive Director  
FCC SECC California  
Sacramento, Calif.

### A plea to advertisers

Dear RW,

Lately I've noticed many ads with only a phone number. The phone usually is connected to a recording machine designed to prevent human contact. Recently I spent an hour trying to get through one of these idiot-

### Get moving, Uncle Sam

Dear RW,

I found it interesting that the FCC cited the small percent of the U.S. population that is not served or is underserved by FM stations, in their report and order on the DARS auction ("DARS Hits the FCC Auction Block," April 2). If the FCC truly is concerned about the underserved segment of the population, they could help alleviate the problem by beginning to process the huge backlog of FM applications they have on their desks.

The commission is failing to do its job by refusing to process any multiple applications for new FM frequencies. Why is there no outcry from the NAB, Congress or someone? We have had an application for an available new FM frequency before the commission for nearly four years. There were two other applications for the same frequency, so the commission refuses to act. This means that the public is not being served by a new FM outlet in this area, and no new jobs are being created by a new station.

It seems to me that the FCC would serve the industry better if they would get back to doing what they were created for. That includes acting on legitimate applications for radio frequencies that they have assigned.

Wayne Specht  
Owner, KHAS(AM)  
Hastings, Neb.

### Simon Geller

Dear RW,

Regarding your Simon Geller bio story (April 2): That was an inspiring piece. Since I'm going through my own battles trying to grow my network (in much the same manner Simon did with advertisers), it helped me replenish my emotional capital. I hope I'm a bit less of a curmudgeon, though.

Paul Kaminski, CEO  
Motor Sports Radio Net/  
Sportcom Associates  
Johnson City, N.Y.

Donald Bisbee  
Columbus, Ohio

# Radio World

Vol. 21, No. 12 June 11, 1997

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Radio World (ISSN: 0274-8541) is published bi-weekly by IMAS Publishing (USA), Inc., P.O. Box 1214, Falls Church, VA 22041. Phone: (703) 998-7600, Fax: (703) 998-2966. Periodicals postage rates are paid at Falls Church VA 22046 and additional mailing offices. POSTMASTER: Send address changes to Radio World, P.O. Box 1214, Falls Church VA 22041. REPRINTS: Reprints of all articles in this issue are available. Call or write Giselle Hirtenfeld, P.O. Box 1214, Falls Church, VA 22041; (703) 998-7600; Fax: (703) 998-2966. Copyright 1997 by IMAS Publishing (USA), Inc. All rights reserved.

—PRINTED IN THE USA—

Next Issue of Radio World  
June 25, 1997

# Board Candidates Speak Out

► BOARD, continued from page 1

numerous regionals, I've been daytimer, I've been fulltimer, I've been directional, I've been Class C FM and Class A FM.

**RW:** How many years have you been in radio?

**McDOUGALD:** Fifty-one years ... I've been in ownership since 1957, and I've had dealings ... to this day, with the FCC. I understand the commission to the extent that anyone understands it. I understand how the processes work.

I've been in some auxiliary services. I pioneered what we call "SMR" — specialized mobile radio — which was a forerunner for cellular.

I bring to the board not just the managerial experience, but I've been there, done that with the commission, understand as well as anyone how it works and am prepared to do what the NAB has to do: be the spokesperson to the FCC for the American broadcasting industry.

**RW:** Define, in your mind, the mission of the NAB.

**McDOUGALD:** Well, it has to be the entity that speaks for American broadcasting. It must represent us in the areas where we can't all go and be. I think that broadcasters had better do their homework at home, with their representatives and senators, and broadcasters who fail to do that are writing on the wall that they really don't care.

I think that if they do that then the organization itself must be the one to step out and say this is what American broadcasting wants and needs. I don't anticipate that every single radio person needs to go to Washington and speak out. But we can speak in a unified voice, and NAB has been very successful at that.

We've got a story to tell the American people. All you have to do is read some headlines that came out of some of the recent victories we've enjoyed, and you will understand that not everybody is absolutely in love with the concept of big broadcasting. I want to do everything I can with the NAB to ensure that we tell the public the story that needs to be told.

**RW:** In light of what you were saying about big broadcasters, do you feel that there will still be room in the next three-to-five years for entrepreneurs, particularly in large markets?

**McDOUGALD:** Yes I do. I think there will always be room for an entrepreneur. I think that American broadcasters have got to learn to do what they are doing — and I'm not sure anyone knows how to do it yet — and that is operate 100 or 200 radio stations ... We've got some pioneers out there that are saying, "Hey, we'll do it." I think there's going to be a tremendous market for young people — and I don't mean just their entry into broadcasting — but once they're in and established, a tremendous market for people who understand how to run multiple operations.

If I went out today to hunt someone who knows how to run just 50 stations — how many people like that are there out there? Somewhere we have to have a training ground for people to assist and help to run the larger conglomerates that are building up.

**RW:** What are some of the issues that you would like to see the board take on in the next few years?

**McDOUGALD:** The main issue — and the one that I intend to run on — is freedom: absolute First Amendment Rights.

I think that those have been in danger since 1934, and I think the danger has increased year by year, and now I see the danger jumping in multiples.

**RW:** What sorts of freedoms are you referring to?

**McDOUGALD:** The basic concept of being free to broadcast with First Amendment rights in every case, and not have a government that would tell us what we must say. I have no problem with the role of the FCC in being a mapmaker, and no problem with the FCC being a traffic cop, and no problem with them sorting out the frequencies that we must use.

But I have very serious problems with them, or any part of the government, attempting to say to the free broadcasters of America, "This is what you've got to do, you've got to do this much of it and you've got to do it as we say."



Michael McDougald

**RW:** How do you feel that NAB can balance the fact that its membership is made up of more radio stations than television, yet the TV stations are the ones that are generating, by far, more revenue?

**McDOUGALD:** Well, this has always been the situation, but I think that the people that created the boards, and the by-laws that set us up, have provided for that in giving us voting power ... I have not been on the board long enough to have any huge confrontations between radio and TV. But I think the quality of our leadership is such that we will come through anything that comes up of that nature.

*Martha Dudman is president and general manager of Dudman Communications Corp., licensee of WDEA(AM) and WWMJ(FM) in Ellsworth, Maine and WEZQ(FM) in Bangor, Maine. She is also president of the Maine Association of Broadcasters. She is in her first term on the board.*

**RW:** Why do you feel that you should be elected to this position?

**DUDMAN:** I think I, in many ways, epitomize the small market broadcaster, and there are a lot of us across the country. In spite of what you read in the trades about the big deals going down, there are a lot of people like me running small operations in small towns, doing the news, covering the local ball games, attending the Rotary meetings, and I think I'm a good voice for that population of broadcasters.

**RW:** Tell me, briefly, your history, experience and background in radio.

**DUDMAN:** I come from a journalism and radio family ... I went into the business in 1986. My mother bought two of the stations in 1980, WDEA and WWMJ. I started out in promotions and sales ... I guess the way many people do, I got caught up in it, and got excited by the business. It's such a fun business to be in.

It has changed a lot, and for many broadcasters, some of the changes have been hard to accept. Some of the spontaneity has gone out of it, and a lot of the freedom has gone out of it. Not so much because of the FCC, but the freedom to do lots of different things on a radio station.

**RW:** Why do you think some of that has disappeared?

**DUDMAN:** I think there are so many more stations in the markets, you have to niche yourself.

**RW:** Define, in your mind, the mission of NAB.

**DUDMAN:** I think the NAB task is to inform broadcasters of what's going on in terms of regulatory, legislative and technological issues that affect all of us ... Also, it is to present the best story of broadcasters to the public and the legislature and the FCC, and to help promote the best interest of broadcasters.

**RW:** What are the big new issues that you would like to see the Radio Board take up in the next few years?

**DUDMAN:** I think the Radio Board already is addressing most of the issues that I consider crucial to broadcasters. One that I'll lead with affects smaller markets more than large ones, and that is the FCC regulatory fees. For a market my size, it is a terrible burden.



Martha Dudman

**RW:** There have been proposals to base them on mar-

ket size ...

**DUDMAN:** That is something that would be of tremendous help to small broadcasters, because ... three, four, five thousand dollars — that is a lot of money.

The NAB should work on continuing to find an IBOC solution or some solution that will bring digital transmission to terrestrial broadcasters.

**RW:** What do you think the Radio Board can do to help move along that transition, especially considering that satellite DAB is now imminent?

**DUDMAN:** I think that the staff of the NAB is fabulous ... I think the task of the board is to direct the staff, and as we make it a priority for us, it will be a priority for NAB.

The other issues include campaign reform. That's a big issue, and I don't think the discussion is finished yet.

**RW:** Are you in opposition to giving free

airtime to politicians?

**DUDMAN:** I think there is a way for broadcasters to work with the government on that, but I don't think we should be asked to give away something willy-nilly. We do give airtime in terms of news and public affairs programming, but we should not be asked to give away commercial time.

Other issues include alcohol advertising. I think hard liquor advertisers have stood together in not doing over-the-air advertising, and I don't know why that needs to change. I don't think the advertising of beer and wine is a bad thing. I don't think it is the FCC's job to say what should be advertised; I think that's the job of broadcasters ...

EEO is another one. Judge us on what we do, not what we report ... It is a tremendous waste of paper.

**RW:** How can NAB balance the interests of small- and large-market broadcasters?

**DUDMAN:** I've been struck by how much the NAB does do for smaller market broadcasters. I think their representation on the board is very good ... There's a lot of attention and emphasis placed on both small- and larger-market

broadcasters ... I think that the board and the staff of the NAB recognize that the stories that small-market broadcasters have to tell are some of the more powerful stories for broadcasters. What we do for our communities is in some ways such a fine example of what broadcasting can be.

**RW:** How do you think NAB can balance the fact that its membership is made up of more radio stations than television, yet the TV stations are by far generating more revenue? There's been a lot of talk lately about TV having a stronger voice than radio with NAB, in certain arenas.

**DUDMAN:** I don't think that's true. I think radio is going through a renaissance right now; it is very strong. Television has some problems and challenges that we are not yet experiencing, with the digital changeover ... I think the NAB is very concerned with radio issues.

**RW:** What has been the net effect of the Telecom Act in your market?

**DUDMAN:** Many broadcasters say, "It makes me uneasy, but I've profited by it." I think that's true in our market as well ... Change is hard and scary, but people who are able to take advantage of the Telecom bill will prosper.

In our market there's been some consolidation ... In the last year, there's been only one merger in Bangor. There's been a lot of talk. The problem is here, as I'm sure it is in other markets, those who would like to sell would like to make back money they've lost. Those who would like to buy would like to buy cheap. There has been a bit of a standstill. But there will be further consolidation in Bangor.

I don't think in a market this size it makes sense to own too many stations, but there's not enough money to make it worthwhile. But Bangor is much smaller than the markets where the big consolidation is going on.

*William McElveen is president of Radio South Carolina Inc., a subsidiary of Bloomington Broadcasting, and licensee of WTCB(FM) in Orangeburg, S.C., and WOMG(FM)-WISW(AM) in Columbia, S.C. He is in his third term on the board.*

See BOARD, page 8 ►

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World Radio History

# Vice Chairman Race Heats Up

► BOARD, continued from page 6

**RW:** Why do you feel that you should be elected to this position?

**McELVEEN:** I think my platform is experience and leadership ... I have worked over the years on virtually every NAB committee. I've raised money for TARPAC (Television and Radio Political Action Committee), participated in all the NAB State Leadership Conferences since 1990. I am running on the platform of experience and leadership to represent the Radio Board's best interest on the Executive Committee.

**RW:** Tell me about your experience and

history in radio.

**McELVEEN:** I began when I was 15 as a part-time announcer and gopher at a radio station in Columbia. I worked into a full-time summer and holiday position when I was in high school, and then I went away for four years to college. I started a radio station at the University of the South in Sewanee, Tenn. ...

I came back to Columbia when I graduated, switched from the programming side to sales in 1972, and in 1973 I was promoted from account executive to managing director of WNOK(FM) Radio, and I held that position until 1979, when I became vice president and general manager of WNOK-AM-FM. The stations were owned

at that time by a company out of Atlanta called Audobon Broadcasting, and in 1984 I became president of Audobon and continued being general manager of the Columbia stations ...

I remained with Audobon until 1989, when Bloomington Broadcasting Corp. purchased WTCB and they contacted me



William McElveen

and asked me if I would be interested in coming aboard, and I was because I had heard a lot of good things about Bloomington over the years.

**RW:** Define, in your mind, the mission of NAB.

**McELVEEN:** I think the mission of the NAB is to put forward the issues that concern broadcasters in every size market, and to do the necessary lobbying effort in Washington to ensure that those issues are resolved in favor of broadcasters.

I think NAB's single most important mission is the government relations mission, and I think so many of our battles as broadcasters particularly in smaller to medium markets are fought on the legislative front.

**RW:** What issues would you like to see the Radio Board deal with in the next few years?

**McELVEEN:** Off the top of my head, I would say campaign finance reform. This whole idea of radio and TV stations having to finance campaign finance reform is abhorrent to me and I think to most broadcasters.

I don't think anybody in the industry really believes that having to give away free airtime or highly discounted airtime is the key to curing the ills of campaign financing. We already bear enough of the costs of campaigns without having to provide free airtime or even lowest unit rates.

The ownership issues clearly are a concern to all of us, particularly those of us in the smaller markets. I think we have a continuing disagreement with DOJ about radio not being the relevant product market, and I think we need to continue to try to resolve that issue.

The alcohol advertising issue is one that, who knows where that's going to go. It's going to be interesting to see which way the new majority on the commission is going to fall on the issue of the commission's jurisdiction. Without exception, every broadcaster I know has refused to accept hard liquor advertising, and I would hope that we as an industry would continue to take that line.

Satellite digital radio: we've got two

companies that (paid) a total of over \$170 million for the spectrum rights. I think it remains to be seen what the satellite launch and buildup of those companies is going to cost, as well as what the appetite of the public is going to be to buy satellite receivers or pay subscription fees. I think that anything that threatens radio listening in any way, shape or form should be taken seriously by the industry and I think we need to keep a watchful eye on that situation.

**RW:** What do you feel that the board can do to help move along a terrestrial IBOC system?

**McELVEEN:** I think from my past experience on the board, it has been very proactive in trying to move forward on terrestrial IBOC. We've had some great leadership from the board on that issue, and now we're seeing that even some big players in the industry are getting behind it. I know Michael Jordan has come out strongly in favor of it, and I read the other day where Mel (Karmazin) had come out saying we need to go forward on terrestrial IBOC ...

It's a very difficult issue. If you talk to a half dozen different engineers you'll get a half dozen different opinions about where we're going on it.

**RW:** Do you feel there will still be room for entrepreneurs in the larger markets in the next few years?

**McELVEEN:** I think it is going to be increasingly difficult for entrepreneurs in the large market. Having said that, it's clear to me that there will always be room for entrepreneurs if the entrepreneur understands that radio, at the end of the day, is still about localism.

That is primarily true in the small and medium markets, but I think it's true to some extent in the large markets as well ... Anyone who programs to the local community and maintains community service and involvement will still be able to succeed even with all the mega-opolies that are around us.

See BOARD, page 51 ►

## BUSINESS DIGEST

Report business news to: Radio World  
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### Wheatstone relocates:

Wheatstone Corp., a supplier of audio consoles for broadcasters, will move all of its administrative and manufacturing facilities to New Bern, N.C.

Wheatstone and Audioarts Engineering have been located in Syracuse, N.Y., for 11 years. The company will be fully relocated in New Bern by October of this year.

Wheatstone will employ approximately 120 people in New Bern. The company announced that more than 50 percent of existing, Syracuse-based employees would relocate with the company.

### PR&E first-quarter results:

Pacific Research & Engineering (PR&E) revenue increased to \$2,291,000, up 17.5 percent over revenue in the same quarter last year. The company posted a net loss after taxes of \$13,779, or 1 cent per share, compared with net income of \$190,169 in the same quarter last year.

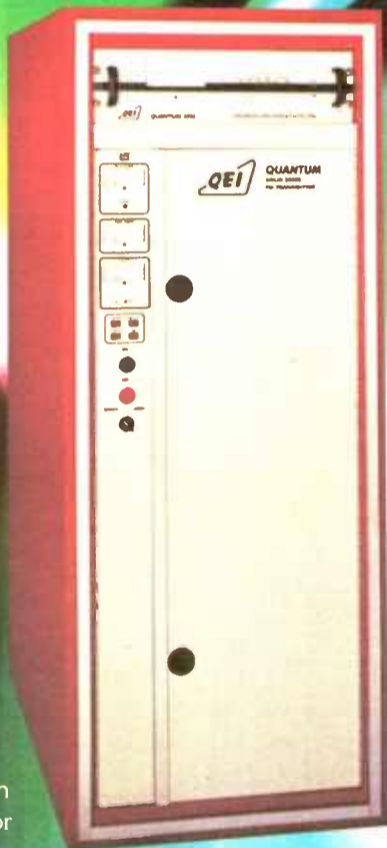
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# Telecom Fund Coffers Swell

by Sharon Rae

**WASHINGTON** Good things come to those who wait. That is the hopeful mantra of those watching and waiting on the progress of a fund to assist small communications businesses.

The Telecommunications Development Fund, or TDF, was developed by Congress to provide access to capital for small businesses. The fund also is intended to stimulate the development of new technology, support universal service and promote employment and training and the delivery of telecommunications services to underserved rural and urban areas.

While evolution of the TDF seems to be moving at a snail's pace, fund officials are quick to point out that time is money. At last word, the fund had \$6.6 million.

## Substantial growth

"That's grown substantially," said Catherine Sandoval of the FCC Office of Communications Business Opportunities. "Now there is \$20.3 million. It earned a lot of interest from the PCS (personal communications services) D, E and F Block auction. Given the length of the auction, which

**Sandoval also said the TDF needs to know in what areas small business people could use technical assistance.**

meant that upfront payment was earning interest all during that time, they earned a great deal of money. Very soon we will be transferring the money from the DARS auction and the WCS (Wireless Communication Services) auction so by the beginning of June, they should have about \$21 million."

Sandoval said the board hopes to begin accepting applications by summer.

"The board is working very hard right now," said Sandoval. "They have a committee to look for a fund manager. Their target is to find a fund manager early this summer, and once that is in place, then they'll be ready to start accepting applications."

Sandoval said her office has received many inquiries about the TDF.

"I had a number of people call me right after the article appeared (RW, March 5)," said Sandoval. "We get calls on the TDF every day."

Sandoval said the TDF will not be a grant-making body.

"It will make either loans or equity investments on which it expects to earn a return so that it can be a sustainable and renewable source for other small businesses."

## Market analysis

A market analysis is next on the agenda for the TDF board.

"Their tentative conclusion is that they should focus on TDF's resources

on different areas," said Sandoval. "One is providing assistance for companies in the start up and seed phase — which would be where existing small radio companies would come in ... And three would be providing technical assistance to small businesses to help in the telecommunications area and the telecommunications finance."

Sandoval said her office is continuing to ask for input from entrepreneurs.

She also said the TDF needs to know in what areas small business people could use technical assistance.

"TDF is not going to be helping out with RF engineering for example, but how can we really provide our assis-

tance to help small businesses, both brand new ones and existing ones grow and develop and be successful?"

The Office of Communications Business Opportunities in Washington can be reached at (202) 418-0990.

## Eliminate barriers

In the meantime, the FCC appears to be re-committing itself to identifying and eliminating the market barriers for entrepreneurs and small businesses. Implementation of the TDF as an effective vehicle for removing financial obstacles for participation in the telecommunication market is part of that pledge.

FCC commissioners also have announced their plans to conduct a comprehensive study of the participation of women and minority-owned businesses in the telecommunication market.

Commissioner Rachele Chong stated while she is pleased with the move, she's concerned about the length of time it has taken to get the study underway.

"In July 1995 when we eliminated our race- and gender-based bidding preference for the PCS C Block auctions, we said that we were considering the means we should take to develop a supplemental record that would support the use of race- or gender-based preferences. Since then, we have stated in a number of decisions that we were working to develop this record."

The commission expects to release the study findings later this year.

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World Radio History

# FCC Rocks Jukebox Radio

by Lee Harris

**NEW YORK** Dumont, N.J.-based Jukebox Radio is operating in serious violation of FCC rules and regulations, according to the FCC.

After years of complaints and investigations, the findings essentially confirm what a local competitor has been charging for years ... that Jukebox Radio is a scheme to use translators for local origination of programming in the very lucrative market of Bergen County, N.J. (population 825,000).

Now the FCC is calling for a license revocation hearing and proposing fines of up to \$1 million.

## Petitioned for change

Jukebox Radio owner Gerry Turro had petitioned the FCC for years to change its translator rules to allow local origination in Bergen County, the most populous county in the country without a commercially licensed FM station.

These petitions were denied, but Turro came up with an ingenious work-around solution. Turro's Jukebox Radio would provide a 24-hour-per-day programming service to WJUX-FM in Monticello, N.Y., a class A station owned by Turro's friend Wesley Weiss. WJUX-FM would then be picked up off-air (60 miles to the southeast) and rebroadcast by Turro's 1-watt translator in Pomona, N.Y., which would relay the signal 20 miles to Turro's other translator, a 34.5-watt facility in Fort Lee, N.J.

The Fort Lee transmitter site is an apartment building high on the bluffs of the Palisades, with a commanding view of Manhattan to the east and Bergen County to the west. Despite its peanut power, the little translator at 103.1 MHz does a very good job of covering the market.

The job was a little too good for Universal Broadcasting, owners of WVNJ(AM) licensed to Oakland in Bergen County. Listening to Jukebox Radio, WVNJ owners determined that this was a case of the "tail wagging the dog." They charged that the programming on WJUX-FM was not intended for the Monticello area, but

was instead targeted directly at Bergen County, some 70 miles away.

## Particularly troubling

Especially irksome to WVNJ was the fact that virtually all the advertising on WJUX-FM was coming out of Bergen County.

An FCC field engineer paid a visit to Jukebox Radio, the translators and WJUX-FM in April and May of 1995 and found that most of what WVNJ had alleged was true. Specifically, the engineer found that an intercity relay station was being used to deliver programming directly to the Fort Lee translator, and that the WJUX-FM signal was not being picked up off air.

The on-site inspection of the WJUX-FM "main studio" was also very revealing. The studio was supposed to be located at the existing studios of WVOS-AM-FM, Liberty, N.Y., but there was no apparent indication or identification that these facilities were serving as the main studio for WJUX-FM; there was no telephone line dedicated to WJUX-FM at the studios; the purported main studio was staffed by WVOS employees; and WJUX-FM leased a former production room for its studio, which not only did not provide programming to the station transmitter, but also was not then capable of such use without adjustments at the transmitter site.

## Controlled at Dumont

Further, while the FCC field engineer was not able to determine whether there was remote equipment installed at the main studio to control the WJUX-FM transmitter or

read its operating parameters, he did determine that the WJUX-FM transmitter was being controlled full-time through telephone lines by personnel at Turro's Dumont studios.

In response to letters of inquiry from the commission, Turro denied the translators were originating programming, and Monticello Mountaintop Broadcasting Inc. (MMBI), owner of WJUX-FM, claimed that it had local origination facilities, management level personnel at the studios during business hours, and that there was a remote control for its transmitter at the WVOS studios.

## Far from over

Turro has refused to talk to *RW* about this case for the past year, but he has maintained that the FCC told him back in 1991 this method of operation would not be prohibited.

After two years of charges and responses the FCC finally issued its "order to show cause" on April 15, 1997, calling for a license revocation hearing and containing this conclusion: "Taken together, Turro's and MMBI's misstatements and their clear motive not only to avoid detection of their violations, but also to continue their prohibited relationships strongly suggest that they have engaged in misrepresentations and/or lack of candor to the commission."

Despite the evidence, the fight is far from over. In addition to the fact that these types of proceedings tend to drag on, Turro has some big artillery he can bring to the battle.

His big band format is immensely popular with the area's large and vocal senior citizen population. Word that their favorite station might be taken off the air has them lobbying their local congressional representatives with the sort of zeal normally reserved for proposed Medicare cuts.

It is a tricky case for the FCC because it pits the demonstrated needs and desires of the radio audience against strict interpretation of commission regulations. The FCC will have to decide if its rules are really in the public interest or simply serving to protect the interests of established broadcasters.



The Fort Lee Transmitter Site

# Radio Stocks in Double-Digit Growth

► STOCKS, continued from page 1

In fact, it is radio's inherent fixed assets as well as increasing valuations due to larger advertising revenues and costs containment stemming from consolidation that is attracting new investors. It was these same factors that led to the CBS radio division's strong first quarter showing.

The radio division's operating profit more than doubled while its cash flow tripled during this time, thanks, in large part, to Westinghouse's acquisition of ratings-driven Infinity Broadcasting last year. (The acquisition was completed during the fourth quarter of last year.)

Also fostering higher station values is easier access to all financing vehicles, including senior lenders, than in past years. And public radio companies can typically obtain lower rates than those presented to private concerns.

"With an abundance of relatively inexpensive financing available to these (public) companies, and a consolidation acquisition strategy, these firms have consistently outbid the private companies, keeping prices high," states Tom Buono, president of Broadcast Industry Analysts (BIA), the Chantilly, Va.-based media research and financing firm.

## Dominating deals

There remains little doubt among industry executives and those investors that follow the business that going public (or con-

templating the move to seek equity funding through the public markets) has been the major trend among many radio operators, particularly those owners operating in the larger cities, since the advent of the FCC's expanded duopoly ruling in late 1992.

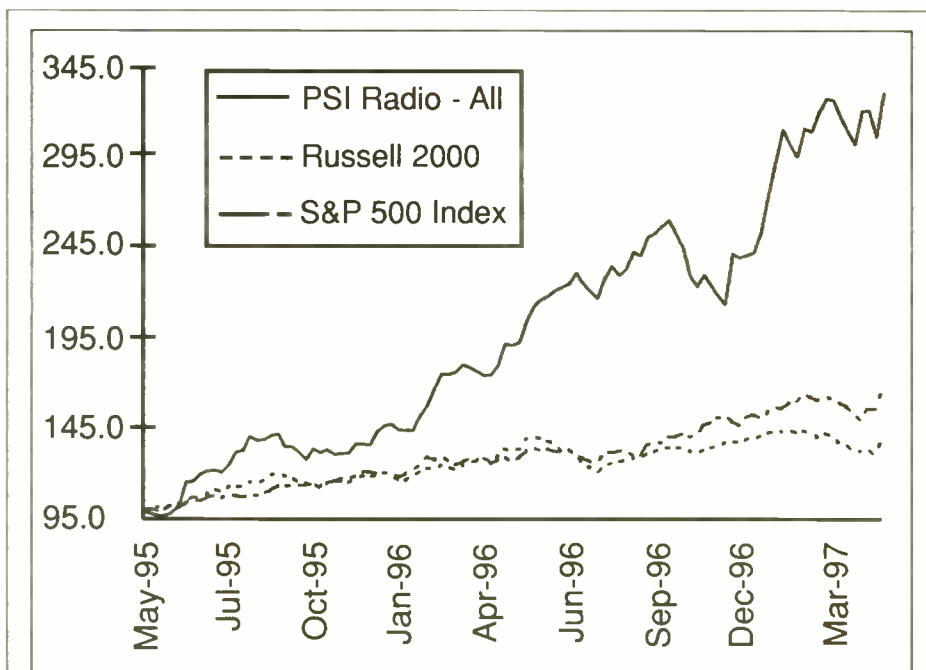
(Analysts generally look at a minimum initial public offering for radio ranging anywhere from \$50 million to \$100 million.)

By turning to the public arena, radio executives are able to quickly raise significant amounts of equity capital for further acquisitions, usually based upon management and station performances as well as local market projections. At the same time, the move to public financing can provide better leverage in fortifying individual station revenues.

## Building a war chest

The overriding goal among these radio groups and/or divisions is rather straightforward: to build a war chest for funding acquisitions that complement existing stations in local markets.

In doing so, radio owners are creating new, demographically rich, local station groups that will be in position to compete even more effectively and efficiently with local television and, especially, local newspapers.



Overall performance of major, publicly traded radio stocks compared to other stock categories, as charted by Prudential Securities' Equity Research Department from May 1995 through April 1997.

Consequently, many of the publicly held station group operators in radio today have emerged as the industry power players.

And according to Prudential's Marsh, the acquisition strategy behind public capital for radio has been contributing to the industry's current double-digit advertising revenue growth.

Radio advertising revenues for publicly-traded radio companies during first quarter 1997 were up in the range of 12 percent over the same period a year ago, compared to the 11 percent

growth rate for the industry at-large.

This showing outdistances other publicly-traded media companies including those in the outdoor category, up 8 percent; newspaper, up 7 percent; and television, up some 4 percent depending upon network affiliations.

Vincent M. Ditingo is a business writer and media consultant as well as an Adjunct Assistant Professor of Communication Arts at St. John's University in New York. He can be reached at (212) 308-8810.

# NABET Reacts

► NABET, continued from page 1  
that union organizing activity in radio may be increasing as the result of the trend of consolidation in the industry. Krieger disagreed with that assessment, stating: "It's just not worth it to us ... I feel overall the trend of unionization in radio is going down and there is less interest in unions moving into radio."

## Initial reaction

Reacting to the story, David Bull, a maintenance and field engineer for ABC Radio Network in Washington, said Krieger's comments upset him and other local members of the union.

"What particularly concerned us was that we are right now in negotiations with NABET-CWA. The contract expired April 1 and we are working with not even an extended contract."

NABET-CWA then issued a statement, "clarifying and elaborating ... the impression left by Radio World's article." In the statement, Krieger said "when it comes to future organizing in radio, our objective still remains the

**Krieger stressed that NABET-CWA has never abandoned radio or the members it represents in that field.**

same. However, we understand the number of people that we could organize are not the numbers available to us as we had in the past."

Krieger stressed that NABET-CWA has never abandoned radio or the members it represents in that field.

"The people that we still represent at ABC and elsewhere, we are representing them to the best of our ability and striving to protect their rights and working conditions," said Krieger. "We are pushing forward as we always have to give them the best representation possible even though our numbers in radio have gone down."

## Looking at context

Jim Donaldson is the NABET-CWA local 16 shop steward for ABC Radio Networks in Washington.

"I suppose if you take (Krieger's comments) in context with the whole article ... it was mainly about what was going on in local radio," said Donaldson. "But we've felt over the years that's been the position, but nobody has ever come out and really said it ... those of us who were left in radio were very disappointed to see a union rep make that kind of comment, to say essentially that 'we don't have an interest in representing these people anymore because they're just too small a group and we can't do it or we don't want to do it.' That's even worse than 'we can't do it' is 'we don't want to do it.'"

Donaldson did seem to give NABET-CWA the benefit of the doubt.

"On their behalf, we've been told since the beginning that they're going to

try to re-establish jurisdiction in radio," he said. "And that would be fine."

Regarding the broadcast union's existing radio membership, NABET-CWA president John S. Clark stated, "We have several radio contracts around the country in addition to ABC, Inc., and we are firmly committed to giving our members in those units the best representation we can possibly give them."

## Walking the walk

Bull said NABET-CWA may talk the talk, but they don't walk the walk.

"Our concern was that we have not been getting any degree representation

that we feel our dues should incur ... if we wished them not to represent us, that should be initiated by the members. We should not find out that they are not representing us by reading it in the press. It should be the other way around."

Clark commented on future organizing efforts.

"Since I assumed office, NABET-CWA has revived its interest in organizing ... (we) would certainly organize a radio shop if we believe there is a real chance that we could help the workers and improve their wages and working conditions. We look at each organizing situation separately and independently. We don't base our decision on whether the shop is in television or radio."

"We've lost everything there is to lose with the exception of our pay

scale," said Donaldson. "That's the only thing we stand to gain by a new contract is that we will hopefully maintain the same rate of pay that the television does. The current contract is that we will hopefully maintain the same rate of pay that the television side has. As far as working rules in radio, we lost those a long time ago."

NABET-CWA currently has a membership of more than 10,000 nationwide, the majority of which are employed in television. The current contract talks with Disney-ABC involve about 2,200 members with the greater number also employed in television.

At press time, negotiating parties were in recess and no definite date had been set to resume talks, however union officials say they are keeping the lines of communication open.

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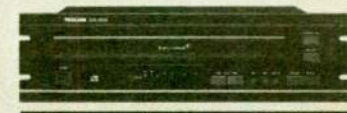
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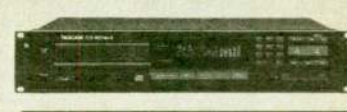
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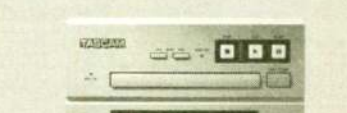
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Circle (217) On Reader Service Card

# Company Does Virtual Radio

by Mark Lapidus

**SEATTLE** Does local radio really have to originate locally? Not anymore, according to The Research Group Vice President Michael Dalfonzo. With its "Virtual Radio," local programming is totally customized to fit the competitive requirements of a market.

"With companies now managing multiple highly competitive radio stations, we are offering an alternative to satellite syndication or doing it yourself," said Dalfonzo.

## How it works

The Research Group assembles a

group of air personalities that become acquainted with the local market in which they will be heard. (Dalfonzo said the company's first "jock meeting" was coming up. A station owner is flying to Seattle to tell his new airstaff about the market.)

The local station needs to have a hard drive system that mirrors the system in Seattle. Using an ISDN line, the DJ voice-breaks are sent to the station several days in advance and loaded directly into the automation system. Because the Research Group does daily music logs for more than 50 stations around the country, it readily has any music format available.

Is there anything that has to be done locally? Dalfonzo recommends that stations do have one local show — preferably morning drive. This local DJ would take care of remotes, appearances, plus on-air weather and news emergencies.

Stations pay for the service with cash. The argument The Research Group makes against the usual syndication barter offer is quite compelling even for small operators. For example: When you take two units of trade per hour, that is 10,220 units airing from 6 a.m. to 8 p.m., Monday-Sunday. With the average spot rate at \$25, paying a 15 percent sales commission and selling out 70 percent of the inventory, a station gives up \$152,000 in "trade."



If your spot rate is closer to \$50, that is \$511,000 annually. When you pay cash for Virtual Radio for middays, afternoons, evenings and overnights at \$5,725 per month, it's \$68,700 annually.

Assuming your local morning show costs \$35,000, the total expenditure is \$103,700. The contract term for Virtual Radio varies. This average price may vary according to market size and station requirements.

## What about ... ?

A few "what abouts" should be added to the budget: What about production of local spots? A production person and voices are need in-house. For an additional fee, The Research Group will cut spots.

What about the ISDN and long distance fees? They are the station's responsibility and vary depending on your

**...we are offering an alternative to satellite syndication or doing it yourself.**

— Michael Dalfonzo, VP  
The Research Group

locale. What about jingles or a station promo voice announcer? Good news — these can be covered by your fees.

Virtual Radio is now heard on Robert's Radio KISZ, Farmington, N.M. General Manager Joe Primrose said, "It's working wonderfully. Our PD/Morning Man Dave Shaffer coordinates daily with The Research Group, sending them information about the community, plus details for any promotions we have. The guys come on from Seattle and they sound like they are right here. The difference between it and a satellite service is 180 percent. It is so much better. It enables a market this size to have major market DJs. We'd never be able to afford that kind of talent here."

KISZ does morning drive locally. Although other local stations are saying things like "when you want real disc jockeys, call a real radio station," Primrose said that listeners not only do not care, most do not even understand what they mean. Because ISDN lines are not available in the market, KISZ receives its programming on floppy every few days.

For further details, reach The Research Group at (206) 443-3888.



Mark Lapidus is president of Lapidus Media. For marketing and programming consultation, call (703) 383-1805 or e-mail: lapidus@erols.com

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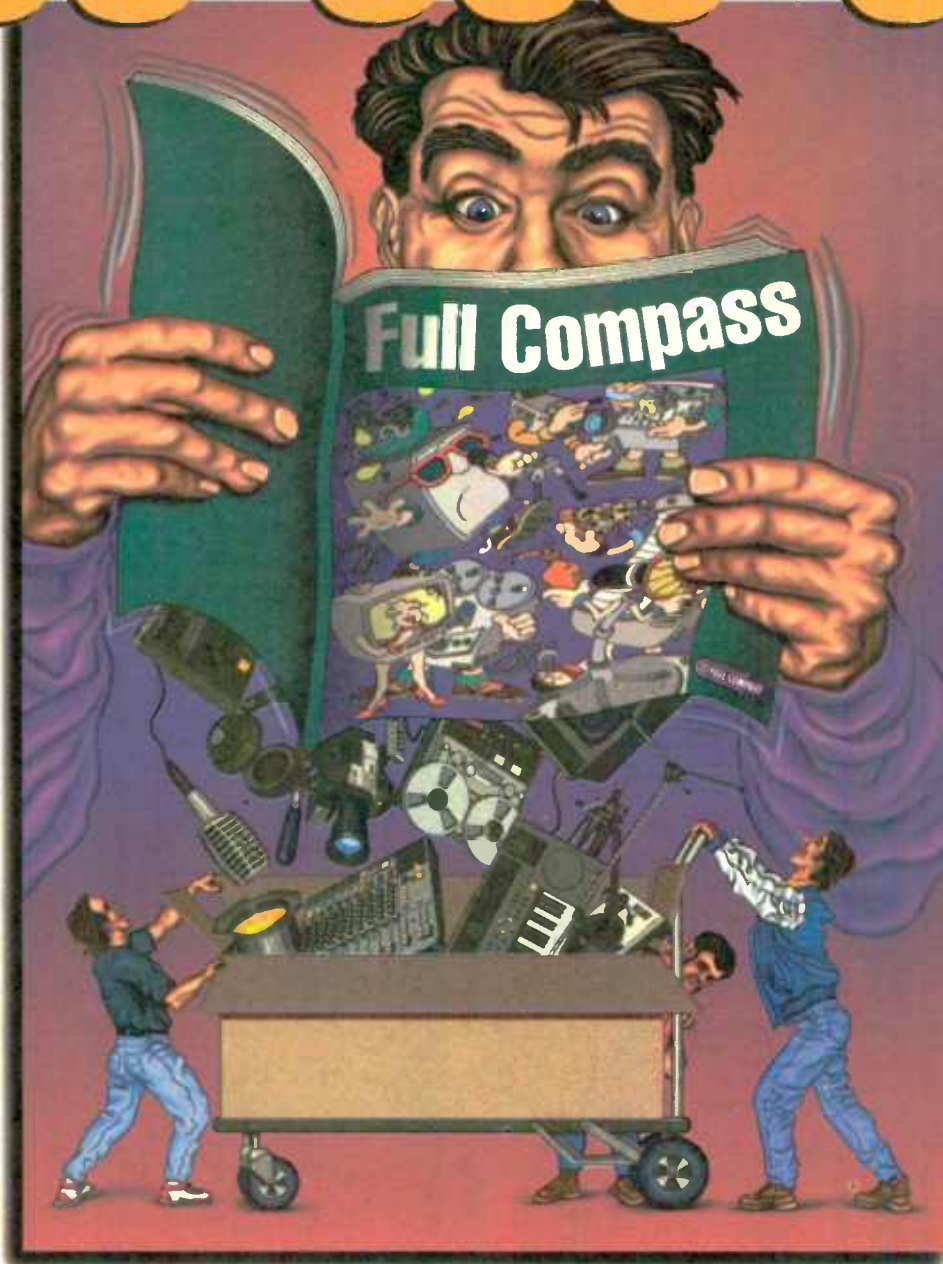
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### Shure FP42

Four XLR transformer balanced mic/line inputs and two XLRs out make this mixer ideal for mixdowns in video editing suites or anywhere a portable high quality stereo mixer is required. Other features are pull-pot cueing in all inputs, low cut filters, mono/stereo switch, Mix Bus linking, headphone amplifier, tone oscillator, switchable limiter, phantom power and dual VU meters.

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# Recorder Options for Reporters

Lee Harris

For years, radio reporters headed out on a story had the option of grabbing a cassette recorder, or grabbing a different cassette recorder.

When it came to spot news field recording, analog cassette was king. In many shops it still is. But a number of digital recording technologies are beginning to make inroads into a field that has lagged behind the rest of the industry in going digital.

## On the forefront

It is not lack of interest that has been holding up the show. Radio reporters have always been quick to adopt and adapt new field recording technologies. Newsmen Bob Hagen of all-news WINS(AM) in New York recalls his early days in Cleveland, when he was sent into the field with something called a "Stenorette," a small dictation machine converted for news-gathering purposes. In Akron, Bob carried around a "Tapac," a spring-driven open reel recorder that had to be wound up with its carrying handle before (and sometimes during) each use.

Obviously, these make-shift solutions were quickly swept aside when reliable cassette machines arrived on the scene in the late '60s. Units like the Sony TC-110 and later, the Marantz PMD series became standard issue field gear. When portable DAT machines came along a few years ago, some radio news operations began to convert, but, as with most products, DAT was not for everyone.

Jim Farley, program director of all-news WTOP(AM) in Washington says his entire news department was outfitted with DAT recorders a couple of years ago.

"Only one guy is still using his. All the other reporters went back to their Marantz cassette recorders. We had problems getting tight cues and battery life was also a problem."

Kathleen Karas at equipment supplier Crouse Kimzey in Annapolis, Maryland says she was getting a lot of orders for portable DAT machines about a year ago, but the flood suddenly dried up.

## Leap-frogged by MiniDisc

"What stations are telling me is that the DATs can't hold a candle to the MiniDisc machines that hit the market, especially the Sony MZ-B3 and MZ-R3. They didn't catch on initially, but they are really picking up now."

Clayton Blick, national sales manager for Sony Pro Audio confirms that the broadcast industry seems to be catching on to the MiniDisc format.



Sony's MZ-B3 MiniDisc Recorder

"These machines were built for the consumer market, but broadcasters are finding that they fit the bill for news gathering. For instance, with the MZ-B3, a reporter can edit a cut right on the machine, and then when he gets back to the studio, he can pop the MiniDisc right into one of our studio models, like the MDS-B5 and its ready to go right to air, without any dubbing."

The CBS Radio Network has been experimenting with a number of technologies in its news-gathering operations. Tony Brunton, Director of Radio Special Events said his reporters have been happy with the Sony MiniDisc recorders, which are now the primary machines in the field. He still has a few Sony TCM-5000 cassette machines in circulation, but the unit that really has Tony excited at the moment is Dutch designed "Vamos," a PCMCIA card product that gives a reporter more than two hours of CD-quality MPEG 2 audio.

"You can send audio out via modem, or directly into an ISDN line. You can also go live from the unit and drop your cut into your live report. It is really neat." Brunton currently has three Vamos units in use at CBS foreign bureaus.

## Pocket-sized

Digigram has begun shipping its PCX Pocket, which also turns a laptop computer into an all-in-one news recorder and workstation. Neil Glassman, Digigram vice president for North American operations said "you can't sling a laptop over your shoulder, but if you are in a situation where you can sit down and interview somebody, PCX Pocket will let you record the interview right onto your computer, edit it and output the results in CD quality."

The unit features XLR connectors (on a cord) and like the Vamos, employs the MPEG 2 format. PCX Pocket retails for about \$1500.

As anyone in broadcast engineering can tell you, reliable technologies die hard, even if cost-effective, state of the

art replacements are readily available. Witness the large number of audio cart machines still in use throughout the industry. This may explain why the two largest all-news stations in the nation, WINS and WCBS(AM) in New York still rely exclusively on Sony TCM-5000 analog cassette recorders for news-gathering. Mark Olkowski, chief engineer for the CBS New York stations said he is looking at eventually replacing the units with something from the digital domain, but there are no immediate plans.

Marantz, the venerable supplier of many of the analog cassette machines used in the industry has yet to field a digital product, but something is definitely cooking. Sales and marketing coordinator Hillary Hackendahl said she couldn't offer many specifics right now, but the new product would be based on "solid state" media, and the intent was to dominate the digital newsgathering market in the way Marantz cassette machines dominate the analog market.

# Put Yourself In a Well-equipped Van

John Diamantis

If you've ever spent a lot of time and energy lugging around several heavy cases of mics, mixers and Marti gear for a remote broadcast, you've probably dreamed about having a remote broadcast vehicle, with everything rack mounted, a pneumatic mast, air conditioning, bucket seats, great paint job, the works!

I have been lucky enough to have that dream come true twice. The first time I was given the "green light" to construct a remote broadcast vehicle, I started with an old minivan-ENG vehicle, left to rust in the parking lot. The good news was

that it had a 4 kW generator, built-in cabinet, pneumatic mast and air conditioning (a must in Washington).

After some careful remodeling, the addition of more remote gear, and \$2,000 to make the van itself road-worthy (including new tires, shocks, front end, tune-up, brakes and paint), we were doing remotes in style.

## Is the price right?

If your station is short on funds or doesn't wish to take the plunge for new, a used vehicle is a good way to go. You must spend the time and money to repair the vehicle and make it reliable.

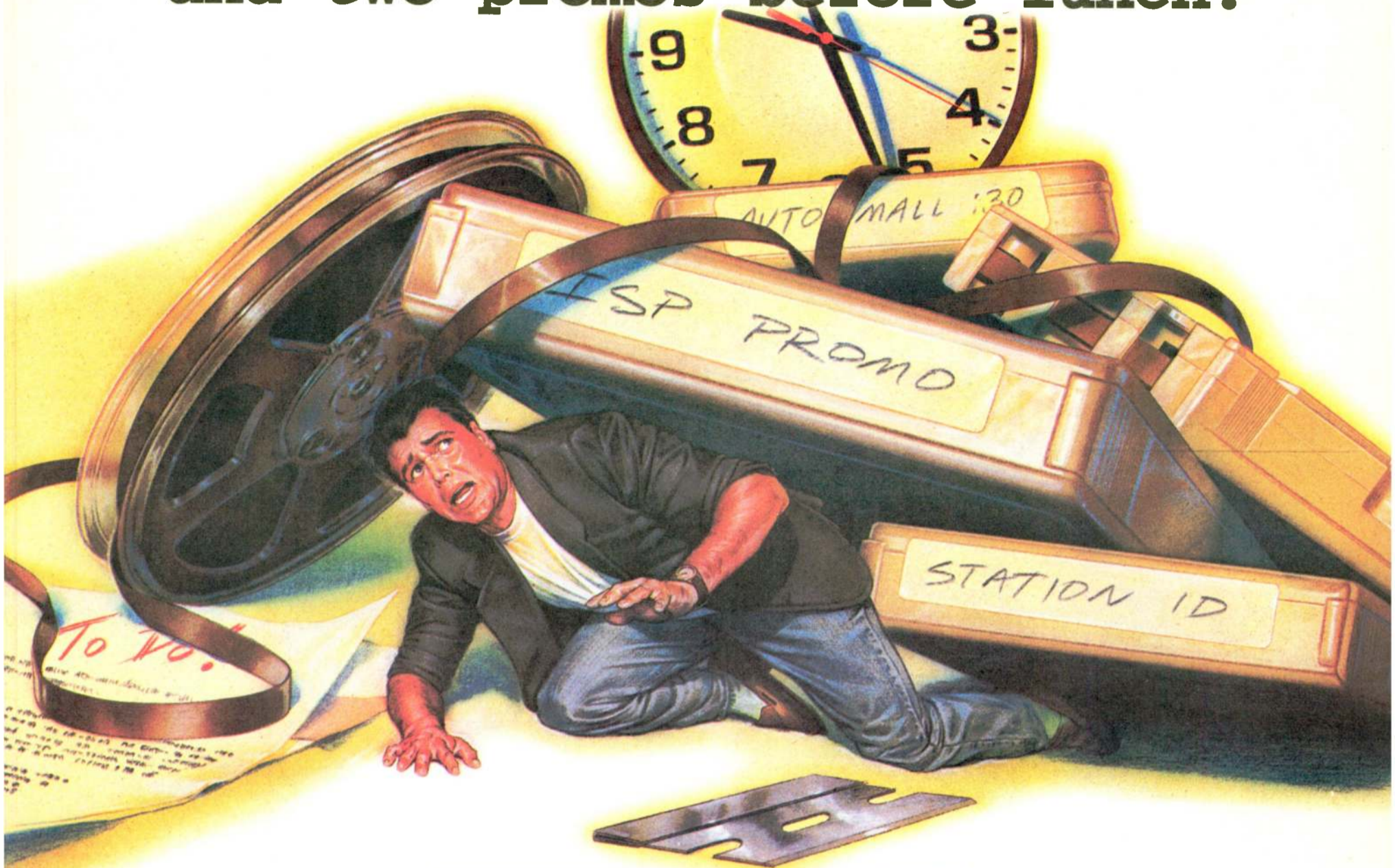
See VAN, page 26 ▶



WBOB's new remote van has an eye-catching decal design.

Photos by John Diamantis

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Circle (101) On Reader Service Card  
 World Radio History

# All-in-one or à la Carte Remotes?

**Rich Rarey**

Ask remote engineers to name the best equipment for a gig, and they'll grin and say "portable." After that, you'll likely to hear their preference in model numbers, size, weight and convenience. Some will argue for remote equipment that is transparent to listener and engineer alike: one box that does everything. Others swear that the best whole can only be assembled by carefully selecting the best parts: the best field mixer connected to the best ISDN codec, with the best POTS equipment for backup. To do less, they say, is to force the box-that-does-everything into tasks for which it wasn't designed.

## One for all?

We checked with several codec manufacturers and broadcast equipment dis-



MUSICAM USA Road Runner

tributors to get a feel for a perceived trend of equipment consolidation — to understand if customers are demanding more bang in the box, and to see if it's realistic to believe one box can be all things on all remotes.

"Customers are clamoring for codecs with mixers," said Scott Beeler, sales manager of domestic studio products at Harris Corp. "Customers are asking for the convenience of several inputs as an all-in-one box, so they don't have to take a rack of gear out. We used to have to sell them a package containing a Shure M267 mixer, a Gentner frequency extender and separate headphone amps."

Beeler said that, as far as remote sporting events go, everyone really has the



Comrex Codec Buddy

same needs, whether it's at an NFL game or a high school game, via ISDN or plain ol' telco service (POTS).

"They're still doing it with the same type staff — announcer, color, statistician — and they have the same mix requirements: backfeed, monitor mix and program bus. The sales of remote gear are up tremendously, because the customers want 'combo boxes,'" he said.

Beeler said there have been surprises in the consolidation of gear.

"Within the last year we've seen an upturn in good headset/mic combinations, and willingness to pay \$450 for the Sennheiser HMD25-1. They're really

selling well." He said Harris has sold more than 200 of these high-quality headset/mics in the last 11 months. "If a customer invests in an ISDN line and a codec, it just makes sense to buy quality headsets" to capitalize on the quality of audio, he said.

## Transmission technology

Art Reed, general manager of Bradley Broadcast Sales, said the choice of all-in-one or à la carte is intertwined with the transmission technology.

"The issues aren't what mixer to use, but rather method of transmission. That is, any of the digital means, such as Layer II or Layer III, have processing

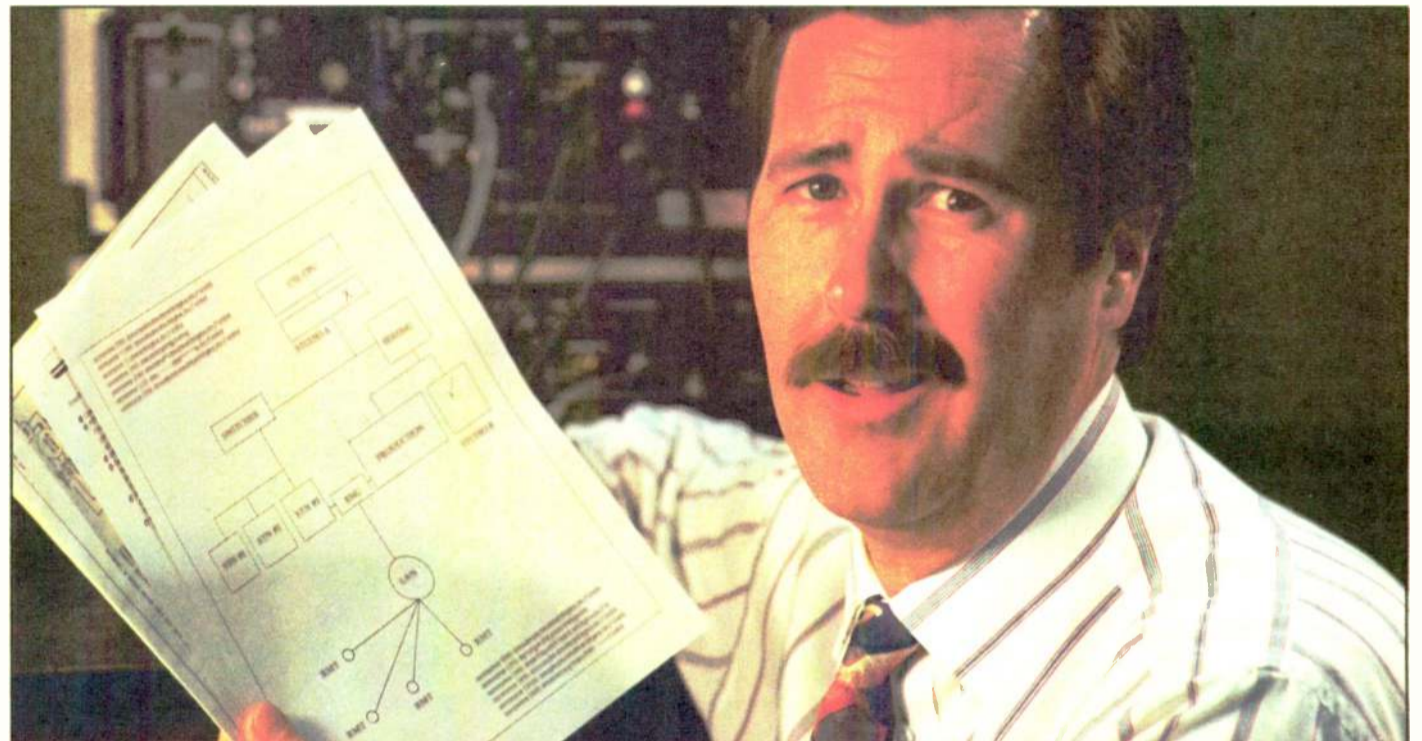
delays, so you can't monitor off-air at the remote site. You now have a need to generate a mix-minus at the studio, and make an on-site monitor mix with the backfeed and local sources. Mixers are being built to address that need, such as Comrex's Buddy."

Reed said the Zercom Max-Z and Max-Z II POTS remote consoles are popular because of their mixing capability and monitoring. But without doubt, digital is in these days. "Everyone is moving to digital because the telephone company is forcing their hand through the high cost of broadcast loops. If you want distant coverage, you have to go with ISDN."

Fewer folks, Reed said, are committing to just one digital transmission technique; customers are usually using ISDN for the primary transmission path and POTS in some form for the backup. Telos Systems' new ZephyrExpress codec, he said, also accommodates the need to mix backfeed and local audio at the remote site. "There is definitely interest for full stereo capability, without the issue of carrying around a rack-mount box."

Steve Church, president of Telos, said his company tries to simplify things. "Our goal with Zephyr (codecs) has always been to get the ease of use down to about fax-machine level. This is why we built all of the ISDN components into the original Zephyr, to eliminate multiple boxes and cable interconnections. In our new ZephyrExpress

See REMOTE, page 20 ▶



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World Radio History

## Remote Choices Abound

► REMOTE, continued from page 19

portable box, we've taken the idea further by adding audio mixing and monitoring. The big thing we noticed from customers is that they were having to have a bunch of extra boxes or a pretty fancy mixer to take care of the required foldback monitoring mix.

"Most users weren't too concerned about taking a basic mixer to go with the codec, but the monitor mix added a special need not easily covered by normal mixers," Church said. "A user could deal with this by using a sophisticated multi-bus mixing console, but all the panning, channel assignment, cable connections, etc., make for a seriously non-intuitive and difficult situation, especially if the goal is to have the talent run the setup. So we decided to take care of that problem in an integrated fashion. Including the input mixer means that, for most basic remotes, the one box handles everything fairly smoothly."

Where does a manufacturer draw the line between one-box efficacy and over-complexity? "We try to get enough functionality to cover, say, 80 percent of the target applications," Church said, "without larding things up in order to address every possible situation. And we have to accept that some users would have preferred a different compromise."

### Consolidation

"Just as consolidation has changed radio, we see changes coming in the way we'll connect remote audio gear," said Art Constantine, vice president of sales and marketing at MUSICAM USA.

"It is for this reason that CCS (now doing business as MUSICAM USA) offers a wide variety of remote communication products, many of them customizable. As an example, news-gathering organizations who need a simple, easy-to-operate POTS codec can choose our FieldFone," Constantine said. "It has two mixing inputs, one headphone jack and a basic I/O structure. Stations

# Dish Mic Puts You in the Action

Alan R. Peterson

The wish of every local radio sports play-by-play announcer is to have a parabolic mic to catch all the action. But the expense can be too great for small-market stations to absorb.

Here is an inexpensive way to construct a reflector-dish mic using products obtained in a single walk around a shopping center. The station already owns the priciest component — the microphone.

### Making money

Local sports programming is a money-maker for smaller-market radio. The better a game sounds, the bigger the bucks.

A normal microphone setup for football games consists of mics for two booth announcers and perhaps one mic for crowd ambiance. A parabolic directional mic in the mix gives added impact — literally — to the action on the field.

Parabolic mics also make great calling cards to get students to intern for your station. A kid in charge of the sideline mic is a happier camper than one doing snack runs for the play-by-play team.

looking to do music remotes over POTS lines will find the new FieldFone II more attractive. It has three mic inputs (one switchable for mic and line), two headphone monitor systems, four isolated relay control links and an expanded I/O configuration. Both units can talk to our rack-mount StudioFone, which adds IFB and a front-panel monitor speaker," he said.

For the highest-quality transmission, Constantine said his company's CDQPrima 200 series can bond up to three ISDN lines (6 "B" channels, for 384 kbps stereo). At this level of remote, it is expected that these codecs would be supplanted with external mixers and monitoring equipment. MUSICAM USA, Constantine said, also addresses the consolidation trend with its newest codec package, the RoadRunner, a connect-to anything ISDN studio in a box.

The key component is the reflector itself. Most "parabolic" mics really are semi-spherical.

Be aware of the difference. A three-dimensional parabolic surface has a sharply-defined focal point; a semi-spherical surface generally has a wider, less-defined focal point.

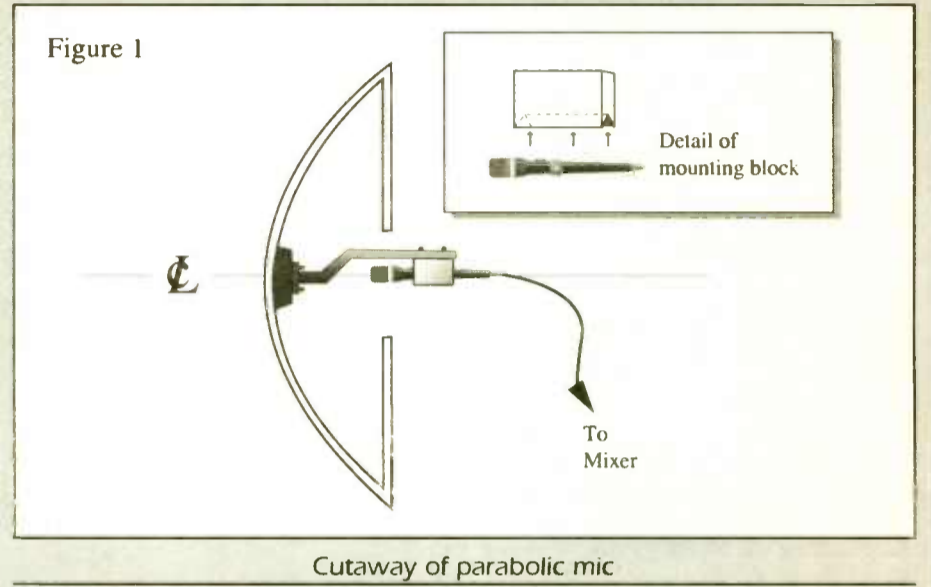
For our purposes, a spherical object will suffice in terms of cost and function. Such objects exist everywhere in

the guise of common household products.

Head to the store that sells cooking supplies and scope out some enormous stainless-steel mixing bowls. Wander down K-Mart's kitchen aisle for a large, deep metal wok.

Note that woks have hammered or grooved interior surfaces that could diffuse whatever sound is gathered.

See DISH, page 21 ►



Interestingly, Comrex, a company long in the audio transmission business, takes a distinctly different angle of one-box consolidation. "We've done a complete circuit on this," said Kris Bobo, vice president of development at Comrex. "We started building a mixer box — the Buddy — with a PA feed, headphone

the à la carte (approach) made more sense."

Her clever solution to lugging separate pieces to a remote? "We came up with a line of really cool cases for solving specific tasks, such as a road case for the 'complete' remote."

It's called — get ready for this — "the large road case." It is a hard plastic suitcase with wheels and pullout handle. Bobo said the road case is designed to carry the equipment based around a Buddy remote, and has room for a Nexus ISDN codec, a Buddy mixer, six mics, six headphones, some cables and a Comrex HotLine as backup. At the opposite end, Comrex offers its minimal road case: a soft-sided, laptop-sized case that fits a HotLine or Nexus, power supplies, one headphone, one microphone and an optional battery for the HotLine.

What consolidations are in the future? Church said customer requests for enhancements can be confusing.

"Every customer wants simple operation, but also 'just one more feature' added to the product. We have been accommodating a lot of the requests, and each new software release has had more features than the previous. But we're also careful about feature additions that subtract more in complication than they add in usefulness.

"I think there is a bit of art to the decision-making process here," Church said. "People keep asking if we'll be making a POTS codec and if it will be available as a Zephyr upgrade. Nothing firm to say on this yet, but we're listening."

So, what's your next remote: all-in-one or à la carte?

■■■

Rich Rarey is technical director for NPR's "Talk of the Nation." He writes the column Public Domain, which appears regularly in the Studio Sessions section of RW. Reach him via e-mail at rrarey@npr.org



Telos ZephyrExpress

matrix, program feed and telco backup, because we were tired of having to set up a bunch of equipment just to support the ISDN backfeed.

"Our customers like not having to lug out a bunch of equipment, but they're finding they have a lot of different remote needs: cellphone remotes, ISDN remotes and regular POTS remotes. They're finding that they like the à la carte approach so they don't have to take an ISDN codec for a simple remote."

### Tools for the task

Comrex is also one of several companies that offer new digital codecs that can transmit via POTS phone lines, rather than ISDN or Switched 56. Bobo said Comrex designed its HotLine to be used easily with just a mic, or added to a mixer, or with a Comrex Buddy. She said the Comrex product line offers a selection of tools to fit the tasks, and a "one-box" solution does not seem to fit the needs of most broadcasters.

"What really clinched this for me was the new POTS codec," she said. "It just made one too many 'tools' in the 'tool box.' One big 'tool' would be too big, so

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► DISH, continued from page 20  
However, it does offer a cheap joke: the WokMan.

Avoid plastic salad bowls and "snow-saucer" sleds from the toy store. They are too flexible to support the weight of a mic. Forget Pyrex-type bowls. Aside from the weight, drilling through glass is a major pain.

It may amuse you to know a fiberglass birdbath from the home improvement center could work in a pinch.

The material from which a reflector is made greatly affects performance. Fiberglass and acrylic plastic are popular because they make no resonant sound of their own. Hybrid blends of several synthetic materials provide wide bandwidth and immunity against undesired sounds (see sidebar story).

Metal woks and steel bowls can ring like bells if struck or glanced. These must be handled carefully or acoustically-damped in some manner.

**Mount the mic**

To mount the mic, use a piece of rigid metal conduit tubing, the type used in electrical wiring. Refer to Figure 1 for the cutaway view.

Bend the conduit so the axis of the microphone, once mounted, will be on-center with the axis of the reflector. Make the necessary bends with a conduit bender. If your station does not have one, the school hosting the football game probably keeps one in the custodial office.

Mount a wood disc to the center of the dish surface and drill it to accommodate the conduit. Cut and notch a wood block to a dimension that will locate the mic on-axis. Screw-mount it to the conduit.

Secure the mic into the notch on the block using rubber bands or duct tape. Connect the cable to the mic, tape it down to the conduit and send it to the mixer.

For long cable runs, connect a battery-

operated line driver at the mic end to send a hotter signal back to the mixer.

**Hocus focus**

Determine the focal point of your reflector — the optimum location where sound from the entire inside surface is focused. The fast and easy way is with the physical test shown in Figure 2.

Place a mic on a stand between you and a radio tuned between stations for some sustained rush noise. Aim the mic towards the center of the reflector. Monitor the amplified mic signal through headphones.

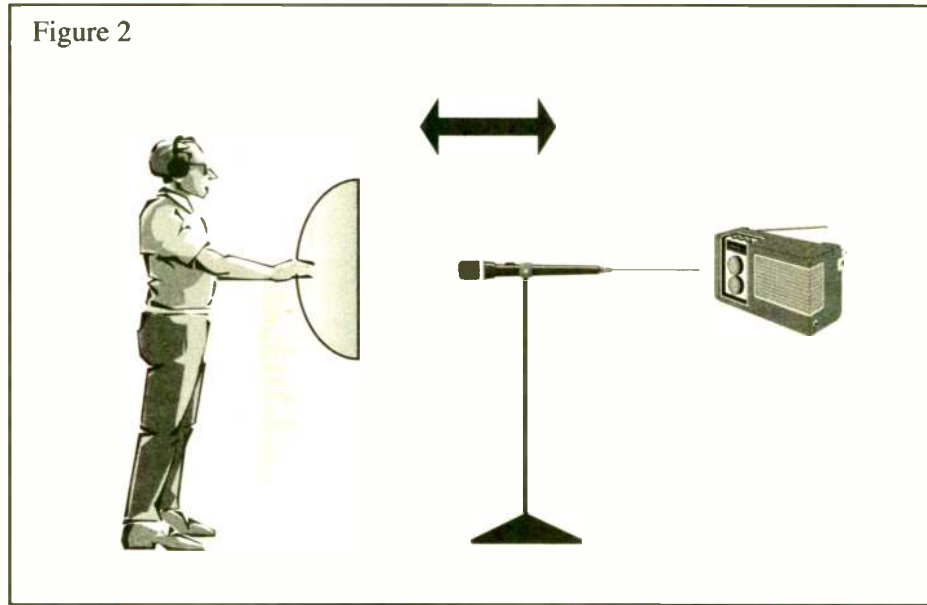


Figure 2

"Walk" the dish to find the focal point (see text).

Keep the dish on-axis with the mic and "walk" the reflector back and forth until the noise level in your headphones peaks at its highest. This is the focal point and should be noted carefully and measured for permanent mounting later.

You could wrestle your way through the parabola formula ( $Y^2 = 4aX$  or any of

its permutations), but again, you are dealing with a semi-spherical surface and this formula would not apply.

The focal point of such a surface will actually occur at approximately  $r/2$ , or one-half the radius, throwing your math way off. The physical test wins, hands down.

**Refinements**

That is all there is to a basic homemade "para" mic, but you can make refinements to improve mobility and storage.

Handles on the dish make the mic

easy to maneuver. A wok already has handles; a steel bowl can be drilled on

the outer rim to accommodate a pair. The base of the conduit can be threaded to allow flange mounting, allowing disassembly for transporting.

A tripod mount is tempting, but discouraged. The mic operator must follow the action of the players (slightly in front of the quarterback), so the mic must be free to move.

Keep weight down by using a light, durable, omnidirectional mic. The EV 635 and Shure SM63 are suitable choices.

In use, bring up the mixer fader only for the play itself, then fade it out before a player yells something less than professional.

Warn the mic-handler that his or her conversation will be audible, so reactions to the field action must be silent. Remember too that listeners will hear the visiting team and fans on the opposite side of the field fairly clearly, bad words and all.

The shape of the dish could cause the audio to sound unnaturally boxy, tubular or way too "open." Given the Spartan use of the mic during a broadcast, the listener will be forgiving. If this is unacceptable, add some corrective equalization. Many small mixers are available with two- or three-band EQ.

Finally, put your station logo prominently on the dish, even if it is only on a bumper sticker. This makes the mic look good in photography, gets your call letters out in front of the crowd and just might keep your boss from noticing that you built his new mic out of a birdbath.

*Where to Shop for Parabolic Gear*

Edmund Scientific Co. in Barrington, N.J., is a good source of pre-made aluminum parabolic reflectors. Part A80,254 is an 18-inch reflector originally designed for solar energy experiments, but it functions reasonably well as a directional mic reflector. Cost is \$39.95 plus shipping. Contact Edmund Scientific Co. at (609) 573-6250.

If your station would rather buy than build a parabolic mic, there are a couple of companies you should know about.

Crystal Partners in Chicago manufactures the Big Ears and Little Ears reflectors seen on Fox Television sports. These high-end reflectors are molded from a blend of Kevlar, acrylic and butyrate for wide response and durability. The mic is sold separately. Prices begin around \$700 for the 13-inch Little Ears model. Call (800) 244-3277.


RD Systems builds the P650 parabolic mic, available through Broadcast Supply Worldwide. The clear, molded parabolic surface includes aiming sights for precise spotting, a handle, a monitor ear-

phone and carrying case. List price for the P650 is \$549. The number is (800) 426-8434.

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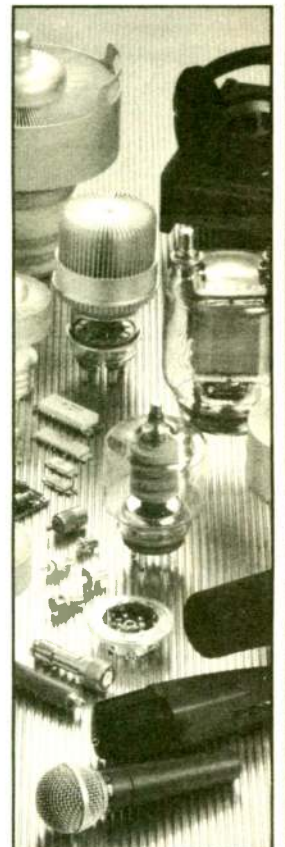
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# Neat Things for Your Kit Bag

Sharon Rae

Whether you are a sound guy or a reporter on the go, numerous products can help do your job faster and, in some cases, more fashionably.

The best place to find these field devices is your favorite broadcast equipment dealer. But don't expect to learn about them in major print advertisements or at convention booths. Companies tend to use those marketing channels to promote their big-ticket, sexy stuff, and leave the meat and potatoes for their catalogs.



NAB Mic Flags

So it pays to develop a relationship with a salesperson at a dealership. Then let him or her know that you want to hear about the cool little tools out there.

## Cool tools

Ric Goldstein, a sales representative for Bradley Broadcast Sales, can offer his clients the line of products made by Porta Brace.

"They make something called the Production Vest. It's got a million pockets for batteries, cassettes, cables, extra ammo, mics and all that other stuff," he said.

The Production Vest is made out of durable blue nylon and will run you close to \$200, "depending on how big your chest is," said Goldstein. "And I'm not being fresh."

Porta Brace also makes a handy belt

pouch called the Side Kit, a must-have for any engineer too embarrassed to carry a pocket protector. The kit includes a Leatherman multi-use tool, Maglite, Stanley snap-off blade knife, Starrett electronics twist-top screwdriver and two Sharpie fine point markers. This \$125 accessory also has a spot for your pager.

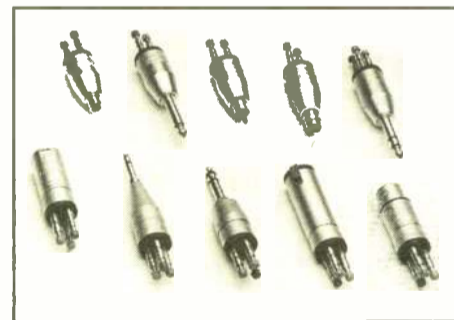
Bradley, like many equipment suppliers, also offers a line of portable equipment cases. "Kaces III equipment cases are very inexpensive, but very cool," he said. "That's probably our best-kept secret. They average around \$25." These tear-resistant nylon padded bags include an accessory compartment for notepads, cables and mics. "You can also get an over-the-shoulder strap if you're a man and you don't want people to laugh at you," said Goldstein. "Otherwise it carries like a purse. They're also perfect to



Rok Sak from BSW

carry assault rifles in the patrol position."

The Rowi Clamp is a Bradley best seller. "If you have a field mic, you need a Rowi Clamp," said Goldstein. "It looks like a clamp that you can spin a microphone on to, and hang a mic off the Pope's mic for your own recording purposes. It attaches to almost any surface."



Connectronics Bodge Plugs

Other neat ideas from Goldstein: the Rack Ruler tape measure from Middle Atlantic, incremented in both inches

and rack spaces; Tunnel Tape, which holds cables down and keeps them together in a non-sticky tunnel down the middle of the tape; and Bodge Plugs from Connectronics. These are a field engineer's dream come true. The



Porta-Brace Production Side Kit

Bodge Family is a set of temporary access connectors that come in a carrying case. These gadgets allow you to



Porta-Brace Production Vest

create 45 different adapter configurations with just one length of balanced cable.

Another handy field kit accessory is a collapsible mic tripod for tabletop mounting. "This is a really neat little desk stand," said Goldstein. "It's made by König and Meyer. It's a little fold-up tripod so you don't have to schlep around those big Atlas DS-7 desk stands for microphones. They look like little

Sputniks and the legs fold up on them. There are two different styles."

## Clamps and 'saks'

Virtually every radio equipment dealer offers a similar complement of field tools. Tim Schwieger, president of Broadcast Supply Worldwide, said BSW also carries the KM 2313 Tripod Desk Stand. "It folds up to nothing and fits in your equipment bag or briefcase."

Other BSW microphone accessories include the Atlas MAC-1 Universal Clamp that mounts a mic almost anywhere. Rack cases and bags for on-the-road operations are another BSW offering. "The Rok Sak is great for protecting rack-mounted gear," said Schwieger. Front- and rear-zippered openings make for easy access in the field, and tough high-impact plastic protects the equipment.



Rowi Mic Clamp

Michael Laiacona is the owner of Whirlwind, a manufacturer of all sorts of interesting audio devices. The company catalog also contains some pretty mundane, yet useful, hardware.

"We make a rubber mic clip that's a copy of a Shure (product)." Laiacona said the plastic Shure clip is

prone to breaking. "We make a replica of this clip in rubber that will allow you to put almost any mic you want into this clip and it will not break. Plus, it's very inexpensive — \$4.99 retail."

The National Association of Broadcasters is another source for fun, handy knick-knacks, including flashy microphone flags, banners and ballcaps.

"We have custom-designed products," said Lisa O'Bara, director of merchandise for the NAB advertising and services department.

A press person can carry credentials in a handy watertight pouch, with a loop for around-the-neck wear. The Sport Pocket also doubles as a promotional tool.

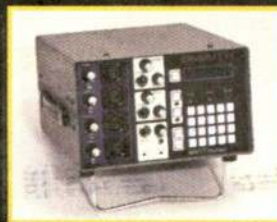
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World Radio History

# Careful Planning Key for Remotes

► VAN, continued from page 17

Nothing looks worse than having a station remote van towed to the broadcast site. If your used van or truck was used for broadcast and has a generator and/or mast, have those overhauled as well.

Those who do build a new remote broadcast vehicle should plan carefully, decide what equipment to use and have at least \$50,000 to \$60,000 budgeted. These are minimums for a van-type remote vehicle, where the installation of the mast, generator, interior and air conditioner is done by a professional shop.

On my second remote vehicle project, my current station took that plunge. After examining the various choices, we selected a Ford 350 Econoline van, which is built on a truck chassis. It should hold up over the long haul. The options we selected include the upgrade suspension package (all that equipment adds a lot of weight), the large V-8 engine package (460 c.u.), and a wheel and tire upgrade (gotta look snazzy too, ya know). A passenger van could be used, but those just are not built to handle the load, and few run without trouble.

Although it would be best to have the mast, generator, equipment racks and other special items installed by a shop that specializes in such work, you may not have one nearby. If you do, you'll find their rate for conversions substantially higher than those of your typical van conversion shop. Of course, the old axiom, "you get what you pay for" applies here! Make sure you include a list of specifications in your contract. It will save you trouble later.

If you use RPU equipment for your remotes, and all of them are within 5-8 miles of your receive site, you really do not need a pneumatic mast. However, as most stations discover, when you want to get a signal back from "Buzzy's Last Chance Gas," 25 miles away, you're gonna need a mast.

## Pneumatic masts

There are many models and sizes of pneumatic masts, but you'll find that prices generally increase exponentially as you go past the 30-foot mark. This size seems to be the best compromise. Try to keep the overall height of the van below 10 feet or so, measured with the mast nested (not up). That way you can travel almost anywhere. (I say "almost,"



The WQBQ van has three equipment racks installed across its width.

because we ran across a single-lane railroad underpass last summer that was 9 feet 10 inches, and our van is 10 feet 4 inches. We had to find another way to get to the site!)

I strongly recommend you install high-power spotlights on the van to illuminate the mast and the area above it at night. This will not only let you raise it safely, but looks great and is a real attention-getter.

The installation of the generator should be routine. However, you will want outside access to the unit, for testing, oil change and so forth. Make sure the box that protects the generator inside the van is airtight, so no exhaust leaks into the passenger compartment. Buy a CO detector and mount it in the van! It has saved me more than once. For the comfort of those around the van, consider one with a quiet muffler package.

We had three equipment racks installed across the width of our van. After some head-scratching, our conversion shop, Eastern Mobility in Woodsboro, Md., came up with a plan to cut down some of the wheel well inside the van and bolt the racks to two pieces of angle iron welded to the frame at this point. This gave us a strong installation that won't come loose, even in an accident.

Adjustable pin spot lighting inside illuminates the front of the racks, and two large dome lights on either side of the work area provide enough light to work comfortably long after the sun goes down.

Because we wanted to use our remote van as a promotional tool, we decided put our logo on it. Traditional painting methods would have been rather expensive, and would not have yielded the results we were after. A computerized decal machine at Signet Screen Printing in Winchester, Va., allowed us to bring our logo artwork, have it scanned into the computer, and then transformed into a set of "decals" to put on the van. It looks great — eye catching and reasonably priced.

Because your remote vehicle will be used by several people for different types of events, plan to keep its operation simple and provide proper training for your staff. Make sure everyone understands the "do's and don'ts" (look up before setup, clean up, check the oil, gas, no driving with the mast up). Most of all, enjoy it.

■■■

John Diamantis is chief engineer of WQBQ(FM) and WFVA(AM) in Fredericksburg, Va. Reach him via e-mail at [wqbq@erols.com](mailto:wqbq@erols.com), or write him c/o Radio World.

## WMZQ on the Road



**WASHINGTON** How do you get a radio link to work between a moving bus back to the tower?

Tom Shedlick, chief engineer for WMZQ-FM in Washington, found the solution to this problem. The station's morning team, Gary Murphy and Jessica Cash, broadcast live from a Metro bus as it ran its route between the Metro rail in Silver Spring, Md. and a mall in nearby Bethesda. The broadcast was intended to encourage listeners to use public transportation.

Shedlick placed a mini-studio consisting of microphones, audio mixers, timers, monitors and the transmitter in the back of the Metro bus. The electrical power from the bus was converted from 12 V to 110 AC and was used to run the studio equipment. Two three-foot antennas (one for transmitting to two mobile receiver sites and one for receiving station cues) were on the bus roof, mounted near the "destination" sign on the front of the bus.

Both mobile receiver sites tracked the audio sent from the bus. Both sites delivered the same audio to the WMZQ studios in Northwest Washington through Bell Atlantic ISDN lines.

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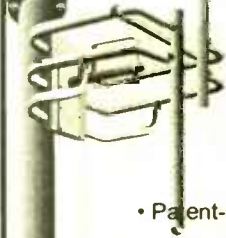
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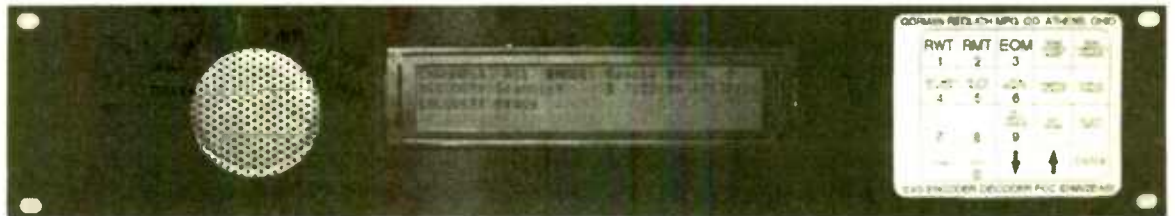
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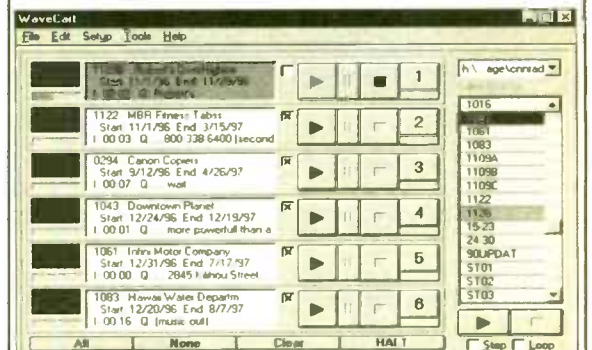
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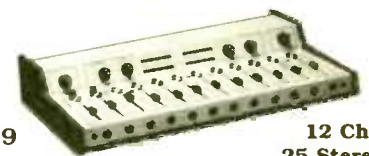
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# Numb Fingers and High Winds

**Troy Connor**

Tower work is unlike any other occupation with which I have been involved. It requires a moderate level of physical strength, in addition to intense concentration and a high degree of mental commitment. In the past 15 days, I have logged more than 3,600 vertical feet and driven about 2,000 miles.

My face is sun- and wind-burnt, and my hands are sore. Yesterday, I spent the better part of eight hours hanging in a safety belt about 150 feet up in the air. During that time, two of us wrestled about 800 pounds of lines and antennas into place. Let's just say I'm plumb whipped out and my a\*\* is achin'.

A little job I did on the last day of March will give you an idea of the demands placed on the tower worker. You might remember the day, because most of the East Coast was in the grips of a mild nor'easter. We headed out from our office in Brasstown, N.C., just before 7 a.m. Heading east into the mountains of North Carolina, we were stunned to run into a mild blizzard.

## High winds, high places

As we reached Asheville, the quarter-sized flakes were falling furiously, and an inch or two had accumulated on the grassy surfaces. We pulled into a convenience store for coffee, and perhaps to contact the customer to cancel the job. However, as we left the store the snow began to lessen and we could see spots of blue sky, so we decided to press on.

We headed north out of Asheville through some of the most beautiful terrain in the mountains of western North Carolina. By eleven that morning, we were on site at a small FM tower looking out over Greenville, Tenn. The panoramic view to the west was stunning, but conditions were nasty at best.

The weather forecast called for gusts of up to 50 miles an hour, and I suspect they were right on the mark. I don't think I have ever worked in that much wind, and I honestly hope not to have to do so again any time soon.

Looking up prior to suiting up in coveralls and climbing gear, we could see the tower oscillate. The station owner and engineer said they had seen it do this before, but they had apparently never been on site when it was twisting so violently.

The reflectors positioned behind each of the FM antenna elements extended roughly 6 feet out from either side of the structure. The ends of these directional reflectors were swinging as much as 2 feet when the gusting wind reached its peaks and the oscillations maximized. The tower would then stabilize, and the cycle would repeat with the next big puff from the cold north wind.

We had already driven 180 miles. The station was off the air due to transmission-line problems. We went ahead and rigged the tower.

Climbing the tower for the first time, we brushed hoarfrost off as we went. Once the tower had been rigged, we put some tension on the winch cable so we could disconnect the 3-inch transmission line. With the line supported, we then cut it loose from the tower and lowered it to the ground.

We found that the line had been irreparably damaged, initially by a lightning strike and then from the subsequent internal arcing. After measuring the old line and terminating the upper end of the new line, we headed back up into the breeze.

The contrast was barely believable. On the ground the weather had become sunny, almost short-sleeve weather. At about 80 feet, we quickly forgot any balminess below. Above the tree line, the wind demonstrated its bite.

I was glad I had on long johns, neoprene gloves, warm hat and, of course, insulated coveralls. Even bundled as I was, my fingers

quickly began to ache. It required every bit of concentration I could muster to push the weather from my mind and focus on the task at hand.

## Fighting the wind

As we lifted the new line, we fought the wind relentlessly. At one point, I called down for a hacksaw. When it was about 15 feet away, the wind caught it and held it perpendicular to the tower, parallel to the ground. All the while, remember, the tower was occasionally "doing the twist" and generally misbehaving badly.

By about 7 p.m., just as the sky began



to darken, we had the new line buttoned up and had begun to pack the trailer. We arrived back in Brasstown around midnight. Seventeen hours and 360 miles later, our day finally was done.

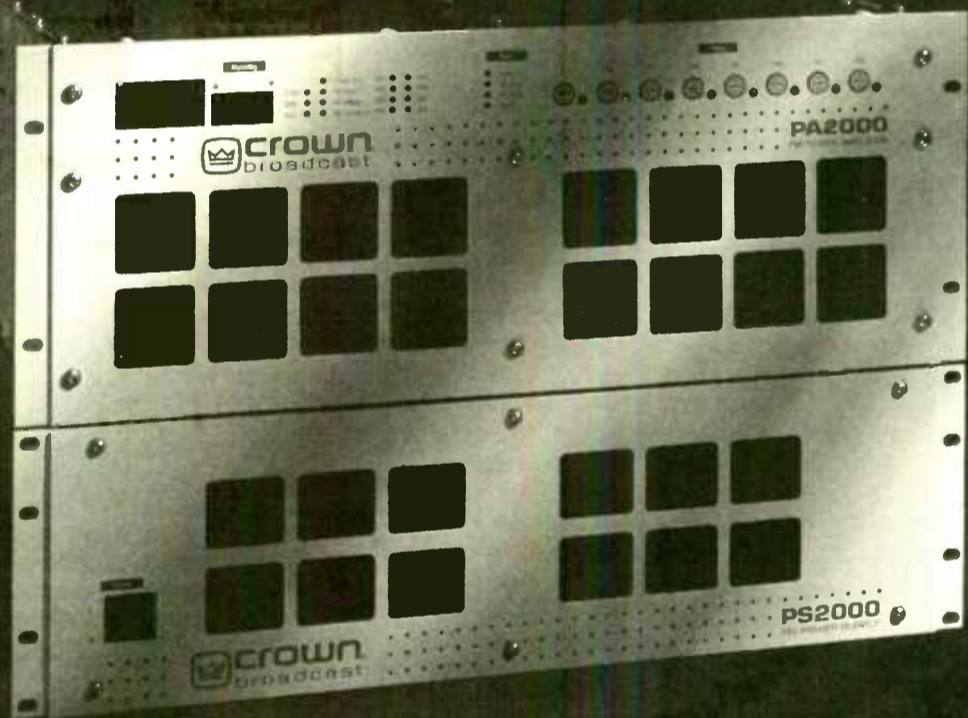
Admittedly, we don't work that many hours every day, but 15-hour days are not at all uncommon.

Until next time, work smart and stay productive.

■■■

Troy Connor 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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# Workbench

Radio World, June 11, 1997

## Too Easy: Too Good To Be True

John Bisset

I remember my dad telling me once, "If it's too good to be true, it probably isn't!" Owners of contracting and other communications businesses should watch their mail for a special offer. A dude in Nigeria is making an offer you *should* refuse.

Mailed in an official-looking envelope, the letter states that, due to an "overpayment" in a recent contract, a sum of several million dollars sits in a Nigerian bank account. The author of the letter would like your "assistance" in disbursing the funds. If you provide him with your bank account information, the entire sum will be wired to your account. You then issue wire transfers for the bulk of the money to be issued to several other "government officials" cooperating in this "deal."

You collect a handsome "profit" for your efforts, amounting to three-quarters of a million dollars. Talk about salivating — 750,000 bucks for about an hour's work!

Well, before I signed on the dotted line, I did a little checking. You see, my dad was a banker. Was I glad I heeded my father's advice! Here's the other side of the coin.

Once you provide your account information and necessary signature guarantees, your bank account is tapped and drained by this guy. Whatever forms you sign give this operator carte blanche to issue wire transfers both to *and from* your account!

I sent the suspicious letter to the Nigerian Embassy, along with a letter asking them about this new "business venture."

For those of us running our own businesses — and dreaming of what we could do with that kind of money — it's a potential high-tech rip-off. And for the unwary, it could destroy your business.

★★★

Bill Kincaid is president of AAA Communications Co. in Nashville, Tenn. He recently offered another idea for solving the problem of RPU static while it rains. He suggests performing



The Symetrix 610: Avoid a problem with a simple fix.

an "effective antenna sensitivity" test by using a signal generator and a "T" connector.

Remove the center pin of the "T," which connects to the signal generator. Now the generator does not make an electrical connection to the antenna. You then crank up the signal generator with the antenna connected to the other port of the "T." Using the VU meter of the signal generator, increase the signal strength of the generator until the

VU meter drops 6 dB.

Remove the antenna and replace it with a 50-ohm load. (A 47-ohm resistor will suffice). Compare the signal generator level required to attain the same level on the VU meter as before. Record the readings and wait for rain.

Any decrease in sensitivity is due to noise that probably is created by high-voltage leakage paths over insulators, either on the tower or on nearby power lines.

A hand-held scanner can help you find the direction of the noise. Use a short antenna and see if you can replicate the RPU receiver noise around the tower. Back away from the tower until the noise does not saturate the receiver. Point the end of

the antenna connected to the scanner, and see if you can find a null in the noise. You'll be pointing at the source.

A spectrum analyzer would also work, and Bill suggests talking to your local two-way radio shop for an IFR COM-120 or A-8750 you can borrow.

★★★

Walt Lowery has always been quick to identify any potential problems with Symetrix products. This alert has to do with bypass relays. Apparently the staff spent plenty of hours struggling over distortion and level problems before they zeroed in on the culprit.

The Symetrix 610 Broadcast Delay is almost two years old. We recently installed one for a client, and can vouch for its smooth operation, slick features and reasonable price.

All of a sudden, several complaints arose concerning distortion problems. The customers insisted they heard audible distortion when they pushed the START button, bringing it out of the bypass mode and into delay.

The problem was worked through with Kent Randles at KUFO(FM) and Ken Broeffle at KUPL-FM, both in Portland, Ore. The solution also explains why a few users were surprised with large gain increases when they installed the 610 into their audio chain.

The Symetrix 610 introduces a signal increase of 1 dB as audio passes through the box. This is as close to unity gain as they can achieve with their delay algorithm, but 1 dB of gain shouldn't cause anyone problems.

Here's the rest of the story: the 610 uses a balanced, bridging input. It does not present a 600-ohm load to the output

of the device that drives the 610 input. Because this may be the station console, there is no 600-ohm termination when the 610 is in circuit and operating.

When the 610 is in the bypass mode, a relay connects the output connectors directly to the input connectors. In this "hardwire" bypass mode, the console output sees the load of the input circuit of the device connected to the 610 output connectors.

If the device connected to the 610 output connector is a processor, and if that processor input presents a 600-ohm load to the console, that termination is removed when the 610 goes on line.

Because the console is no longer connected to a 600-ohm load, the output signal may rise as much as 6 dB, depending on the output circuitry. This level increase will pass through the 610.

Symetrix uses a heavy-duty output driver in the 610. It can supply the same output level to either a high-impedance bridging input or a 600-ohm load. When loaded with 600 ohms, the 610 output level will not drop, due to the robust output drivers.

A level increase of this magnitude, however, will increase the amount of compression. Anyone sensitive to the station's sound will notice. If the input circuit of the limiter runs out of headroom and starts to clip, distortion will result. Clipping also can occur downstream in other devices, like distribution amps and STLs.

Unfortunately, air talent will accuse the 610, because the audio degradation occurs when they depress the START button.

If we were to convert the 610 input to 600 ohms, the console would be double-terminated in the bypass mode. This is not a valid solution.

A better solution is to convert the input of the device following the 610 to a bridging high-impedance input. The console then will switch between two bridging inputs, and there will be no significant change in the console loading.

Most modern equipment is built with electronically balanced inputs. If an input presents a 600-ohm load, usually it is created by the addition of a 620-ohm resistor across the input circuit. Removal of this resistor may be all that is required to convert the input to bridging. For assistance, contact the processor's manufacturer.

For further information, contact Walt Lowery or Beverly Smith in Symetrix Customer Service at (800) 288-8855. For information on the Symetrix 610 Broadcast Delay, circle Reader Service 221.

■■■

John Bisset is a principal with Multiphase, a broadcast 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 at WRWBENCH@AOL.COM

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SBE NEWS

# How the SBE Certifies Engineers

**Troy Pennington**  
SBE Certification  
Committee

*A quarterly column by and about members of the Society of Broadcast Engineers.*

The Society of Broadcast Engineers began its Certification Program to give our industry a gauge by which to determine the technical abilities of broadcast engineering professionals. More than 20 years ago, two devoted broadcast engineers, Benjamin Wolf and Jim Wulliman, started what is now considered one of the industry's most-respected certification programs. The first SBE certification test was administered in 1977; the tests were designed for either radio or TV. (The scope today now includes certification for related professions such as production houses and studio technicians.)

Up to that time, the Federal Communications Commission had a testing program by which one could earn a Third Class, Second Class, (this one was the toughest for me) and First Class Radiotelephone Operator's License. A different test was given for each level. You were required to start with the Third Class test (remember Elements One and Nine!) and work your way up to the First Class, or "First Phone," as it was more commonly known.

### Unqualified First Phones

The FCC testing program had three basic problems. First, test questions were not updated with technological changes. Second, one could attend a "six-weeks" school and more than likely learn to recognize the correct answers. Third, the license was good for life. There was no way to determine if an engineer had kept up his knowledge and skill. A "First Phone" did not necessarily mean the individual was qualified.

Many of our number were highly

## 66 Years Ago

Reprinted from Radio World  
June 6, 1931.

Editor's note: The RW of old, printed for a time in the 1920s and 1930s, and today's RW are unrelated except in name.

### Midget Condenser Leaflet

The midget condenser has always been a popular item with radio fans because of its extreme usefulness. And now with the recent introduction of the new tuning type of midget condenser, developed by the Hammarlund Manufacturing Company, 424 West 33rd Street, New York City, its value has been multiplied manifold.

This very interesting subject has been covered completely in a specially prepared leaflet, replete with diagrams and circuit data, just released by Hammarlund. Copies of this valuable bulletin are free for the asking.

qualified in those years, had studied hard for the "ticket" and were proud of their efforts in obtaining it on their own. They should to this day continue that sense of pride and accomplishment. They knew the right answers from knowledge, not from memory!

Also, renewal of the license simply required a form and a fee. The FCC later combined all First Class and Second Class Radiotelephone Operator's Licenses into one known as the General Class Radiotelephone Operator's License. This certificate was granted for life. No renewal was necessary. The FCC subsequently ended its in-house

testing/licensing program. The need for a reliable certification program intensified.

### A better way

To solve some of the problems associated with the FCC program, it was decided that SBE Certification will be granted for a five-year period. Recertification, for another five years, will be granted only if the candidate takes another test or earns enough recertification credits in a combination of categories. The applicant also can move up to higher levels of certification depending on the years of involvement in broadcast engineering and the particular field of certification. This

encourages the engineer to maintain an active role in the profession and stay abreast of latest technology. In turn, the engineer becomes a more valuable resource to the employer.

Participation in professional societies, and attendance at regional and national conventions and educational seminars, qualifies the engineer for recertification credits. Recertification credits are earned from at least four of the following categories:

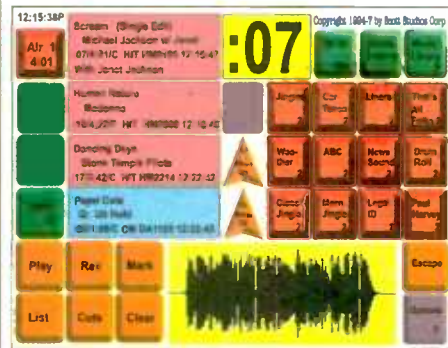
- Employment as a full-time manager or supervisor, or full-time broadcast engineer;
- Successful completion of an accredited course in broadcast engineering or related field, either as a student or teacher;
- Presentation of a significant paper or talk on a broadcast subject before a national or

See CERTIFICATION, page 34 ▶

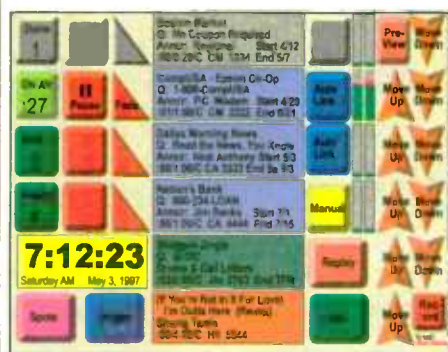
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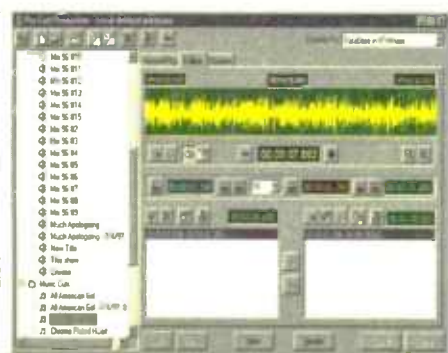
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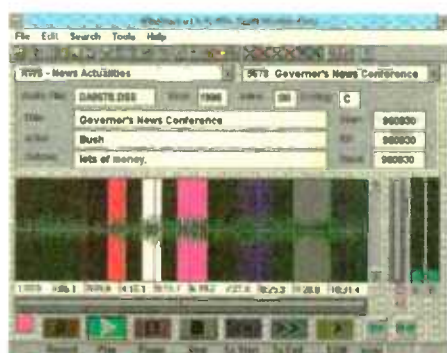
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*Controls are designed for the fast and furious pace of live radio. For example, our exclusive button guards reduce the risk of accidental changes.*



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# SBE Program Is Industry Standard for Engineers

► CERTIFICATION, continued from page 31 regional engineering meeting or conference;

- Publication of a technical article in a national broadcast periodical or in a local chapter publication;
- Active membership and participation in the SBE or other national technical society related to broadcasting;
- Active participation as an elected or appointed officer or committee member in the SBE or other technical society;
- Attendance at local SBE meetings and other local technical conferences and semi-

nars; attendance at regional or national conferences; participation in the Chapter of the Air (HamNet);

- And attendance at factory schools or in-station schools.
- Home study courses may qualify for professional credits as evaluated by the National Certification Committee.
- Other activities involved in the broadcast engineering or allied fields may qualify for credits at the discretion of the National Certification Committee.

The SBE keeps the questions current.

Periodically, the National Certification Committee reviews the questions in the pool, deletes the outdated ones and replaces them with ones dealing with the latest technology.

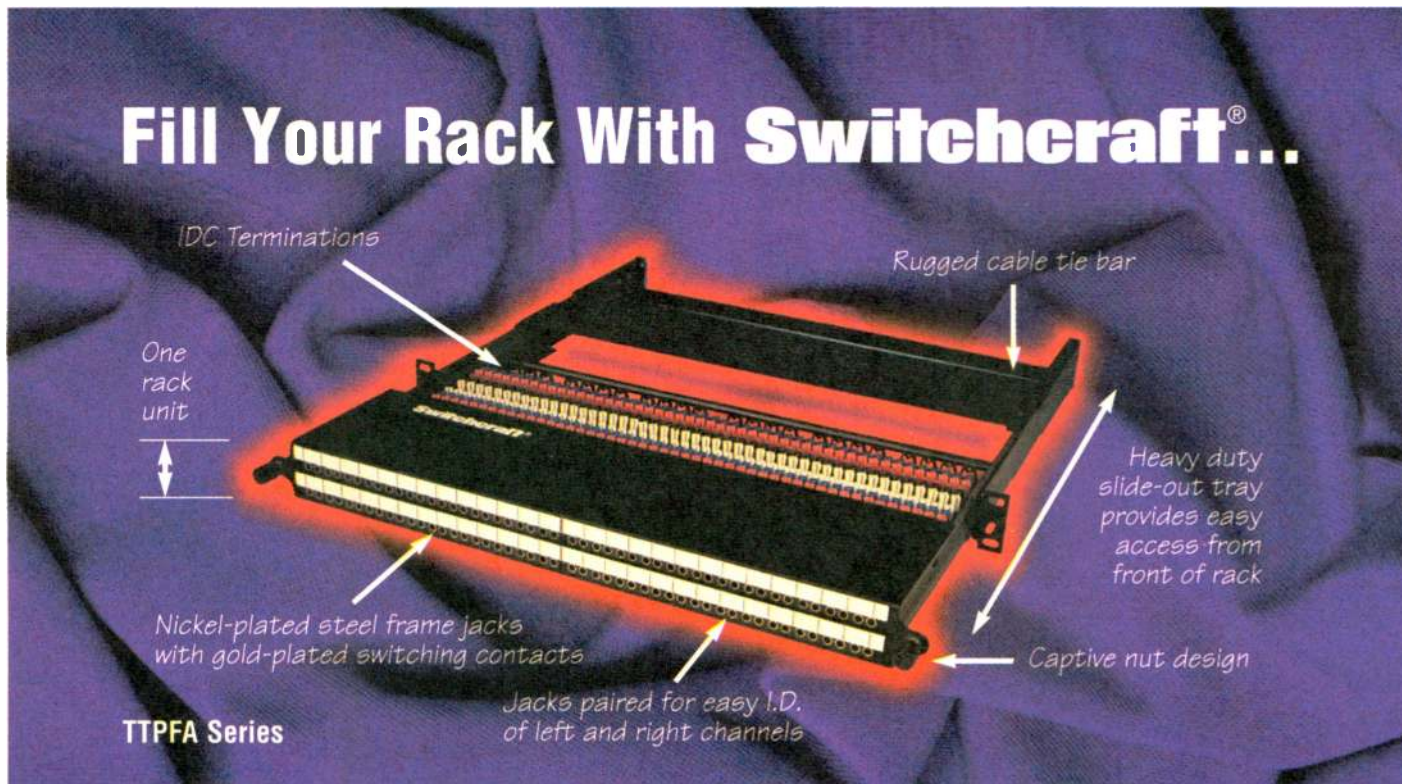
At present, the Certification Program has nine categories (see Figure 1). Except for the Professional Broadcast Engineer, which requires that the candidate be currently certified at the Senior Level, an engineer may test for radio and/or television at the level determined by experience. Broadcast Technologist requires no previous experience. The Broadcast Engineer and the Senior Broadcast Engineer certifications are five- and 10-year levels, respectively. Twenty years of experience is required for Professional Broadcast Engineer certification, which also mandates a degree of knowledge in maintenance, systems design, management or supervision,

and continuing education.

All Broadcast Engineer tests contain questions in basic electronics, FCC regulations and transmission standards, safety, audio and/or video, EAS, microwave and satellite systems.

### New categories

Recognizing that many people deal with video and audio, such as in production studios, but do not work with transmitters and RF directly, the Certification Committee recently developed two new certification categories: Certified Engineer Video (CEV) and Certified Engineer Audio (CEA). These engineers can become certified and reap the benefits of



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Our innovative front access patchbay gives you space where you've never had it before and convenience you've never dreamed of, in a quality package you've come to expect from Switchcraft. Our heavy duty slide-out tray gives you access to the 96 nickel-plated steel frame jacks **from the front** of the unit.

But that's only the beginning! See the photo above for all of the features and benefits, which make this panel

ideal for use in studios, tape editing rooms, mobile facilities and anywhere space is limited.

While you're at it, check out the patching products below. Don't forget our high quality patchcords, and industry-standard Q-G\* microphone connectors.

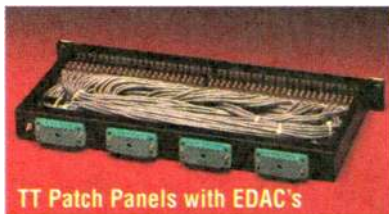
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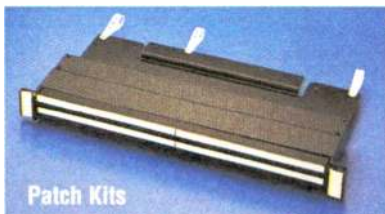
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- Extra wide labeling strips
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 Broadcast Audio Engineer  
**5 Year**

Broadcast Technologist  
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 Broadcast Technologist  
 Radio

SBE Certification. The CEV and CEA tests focus on the technology in the audio/video engineering fields and exclude questions in RF, EAS, microwave, satellite and FCC transmission standards.

Preparation Guides for each test (including the new CEV and CEA) are now available from the SBE national office. These guides contain sample questions and a suggested reference list. The questions are similar to those contained in the tests and should indicate areas of strengths and weaknesses.

SBE Certification is a true test of one's knowledge of the technology that keeps our stations on the air, competitive and viable in today's rapidly changing markets. SBE Certification is a plus for the broadcast industry.

Certification tests are administered at the spring NAB convention and at the local SBE chapters in June and November. For further information on the Certification Program, contact Certification Director Linda Godly at (317) 253-1640.

Troy Pennington is certified as a Senior Radio Engineer and is a member of the National Certification Committee. He has served three terms on the SBE board of directors and is the treasurer of the society. He is chief engineer of COX Radio Inc. stations WZZK-AM-FM and WODL(FM), Birmingham, Ala. Reach him at (205) 916-1119.

# Running Radio

From 'Trick or Treat Street' to 'The Ultimate Wedding'  
See page 40.

Radio World

Resource for Business, Programming & Sales

June 11, 1997

STATION SNAPSHOT

## Ohio 'Seniors Station' Turns Two

Alice Hornbaker

In only one American radio market can as many as 200,000 older adults enjoy their own 24-hour, seven-day-a-week public radio station. WMKV(FM), serving Cincinnati, dedicates itself to those 60-plus.

Broadcasting at just over 400 W at 89.3 kHz, the small signal expands to a much larger audience through the Intercommunity Cable Regulatory Commission (ICRC). Since 1995, ICRC has carried WMKV programming on public access television channels, expanding a listener base of fewer than 20,000 to a potential 200,000, the number of Time-Warner Cable subscribers in the Cincinnati area. Alan R. Bayowski is general manager of WMKV and Connie Langhorst is station manager.

The station turned two years old on

May 16. Winter Arbitron ratings released in April show the relatively new WMKV had a 0.7 share among listeners 12+. That was greater than two established public radio stations, WNKU(FM) at Northern Kentucky University (0.6) in Highland Heights, and WMUB(FM), Miami University, Oxford, Ohio (0.3).

### Volunteer-powered

WMKV, staffed mostly by volunteers, provides around-the-clock music from the late 1920s to 1950s, emphasizing the Big Band and "Hit Parade" era. It rebroadcasts old-time radio favorites and airs commentary by Cincinnati's first African American broadcaster, Ernie Waits, Sr., now retired, as well as public service announcements, community happenings and original shows. The station offers a listener hotline and live-music Big Band dances every Sunday at the

Maple Knoll Sycamore Senior Center in Springdale, Ohio, just outside of Cincinnati.

Bayowski recently announced that by June 30, WMKV would move to its permanent new studios on the Maple Knoll

Radio Competition June 19 in New York.

The little station that could — and did — captured a Gabriel Award last November, a "Certificate of Merit" presented by the Catholic Broadcasters Association for "V-J Day, When the Lights Went On Again," the station's original tribute to local World War II veterans who served in the Pacific.

Two retired veteran broadcasters, Anne E. Wagner and Bob Miller, hosted



WMKV's 1939 Cadillac in front of the new studios at Maple Knoll Village.

GUEST COMMENTARY

## Radio Waves Transmit Flood Relief Request

James T. Wold

Throughout the history of radio, stations have rallied together to help in time of need.

morning radio teams to a mass remote broadcast on Friday, March 25, in front of the Target Center in downtown Minneapolis. Twenty-one radio stations committed to the flood relief



Radio to the rescue! People lined up to make donations for flood victims.

During broadcasting's first 75 years, nature contributed its usual quota of floods, windstorms and earthquakes, with man figuring predominantly in economic ills, fires and disease. Broadcasting has consistently served the public's interest at these times of trial.

This tradition of service continued during the 1997 Midwestern floods. The commercial and public radio stations of the Twin Cities sent their

fund for residents of western Minnesota and eastern North Dakota.

The metropolitan radio stations raised almost \$800,000 for flood relief. The idea was the brainchild of KDWB-FM disc jockey Dave Ryan. "Obviously, we wanted to do something to help out," said Ryan. "So the next thing was, what can we do that would be different from the usual radio marathon? When we first came

See WOLD, page 37 ►

Village campus. The station first was headquartered in the cramped second floor of an abandoned firehouse in Reading, Ohio, the station's city of license, then moved to its current location in two rooms in a bank training center in Reading.

Republican Rep. Rob Portman of Ohio's second congressional district was instrumental in gaining a waiver for WMKV to move from Reading to Springdale.

### An open-and-shut case

The station went on the air May 16, 1995, at Senior Expo, an annual festival for older adults held at Cincinnati's Coney Island. The licensed power level was 1 kW. It went off the air the next day, after Bayowski was told by the FCC to "shut down" because the station interfered with other signals. As the station played "Thanks for the Memories," Bayowski climbed the ladder to reach the firehouse studio and shut down WMKV.

Then, after two months of bureaucratic snares and roadblocks, Bayowski received the green light from the FCC to return to the airwaves. However, it put the senior station on a wattage diet, reducing the signal to just over 400 W.

Since that catastrophic shutdown two years ago, WMKV has captured three major awards, and in mid-May was notified it will receive a fourth. The station will be recognized in the "Best Oldies/Nostalgia" category during The New York Festivals International

and produced the Veterans Day tape. Langhorst put out a call over the WMKV airwaves for veterans who served in the Pacific to contact the station. Then they selected 23 local veterans to record their personal memories. On Memorial Day, the Armed Forces Radio and TV Network scheduled that tape to be heard around the world.

Earlier last year in Philadelphia, WMKV won the national "Innovation of the Year" award, presented by the American Association of Homes and Services for the Aging. The Ohio chapter of that same group earlier presented WMKV with Ohio's "Innovation of the Year" award in Dayton.

The paid professional staff at WMKV includes Bayowski, Langhorst and two technicians, Mike Farrar and Dave Schram. Retired volunteer veteran broadcasters and



General Manager Alan Bayowski accepts "Innovation of the Year" award in Dayton Ohio. Also pictured, l-r, are Dave Schram, automation specialist, Mike Farrar, production specialist and Connie Langhorst, station manager.

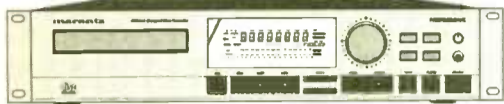
engineers do the rest. Stored in volunteers' basements are more than 10,000 listener-donated old-time music albums that Ed

See SNAPSHOT, page 37 ►

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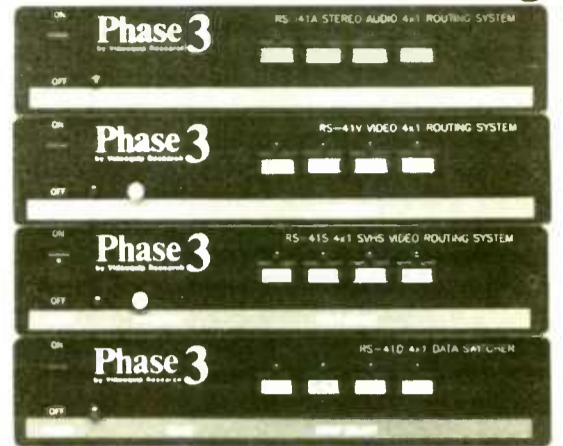
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READER SERVICE NO. 91

# Radio Aids Midwest Flood Victims

► WOLD, continued from page 35

up with this idea, we said there was no way everyone would take the gloves off and drop the competitive spirit long enough to do it together, right next to each other on the same sidewalk.

But it only took a couple of hours of phone calls, and just about everyone

cooperated. It was quite amazing!"

By 8 a.m. donated goods, dropped off by a steady line of commuters, filled four semi trucks.

A semi was donated by Lunds grocery store. People listening to their car radios heard about the event on nearly every station. They lined up to make their

donations and to talk with their favorite radio personality. Cash donations were made to the Red Cross and Salvation Army Disaster Relief Fund.

Donations included the usual disaster supplies, non-perishable food items, bottled water, baby-care items, diapers, wipes, toys and cleaning supplies.

WPQM-FM came from as far as Princeton, 70 miles south of Minneapolis, to participate. KEGE-FM put two attractive women at their booth and raised \$25 to \$100 per kiss for the flood relief drive.

Other participating radio personalities and the stations they represented included Tom Barnard of KQRS(AM); Tim Russell of KLBB(AM); Freddie Bell of KSGS(AM); Pam Reed and Mike Olson of KMJZ(FM); Mike Lynch at WCCO(AM); Bob Yates of KFAN(AM);



Local radio personalities tried to put a happy face on a grim situation — damage and displacement caused by floods in the Midwest.

## Station Celebration

► SNAPSHOT, continued from page 35

Dooley, a retired WLWT(TV) engineer, plans to transfer to CDs.

WMKV is owned by Southwest Ohio Seniors' Services Inc. and Maple Knoll Village, a retirement community in Springdale. The station has an annual budget of \$250,000.

Robert Logan, executive director of the Council on Aging for Cincinnati Area Inc., founded Partners in Radio in 1995 to aid WMKV in its search for funding. The coalition consisted of seven senior social agencies.

Communications Inc., said there's room for a station like WMKV.

"If you are persistent you can bring (the signal) in. My parents live in Independence (in northern Kentucky). I fiddled with their stereo to get WMKV for them. Personally, I also keep a button open to hear WMKV."

Two granddaddies of Cincinnati public radio, WGUC(FM), and WVXU(FM), applaud and support WMKV, too. Brenda Pennell, general manager of WGUC, calls WMKV "A great concept. And as baby boomers age, WMKV will already have carved out a particular niche, broadcasting to older audiences exclusively. Very smart."

Dr. James C. King, general manager of WVXU at Xavier University, a station now in its 27th year of broadcasting, said "WMKV is terrific. It provides a real community service. Personally, I'm thrilled with it." So is Cincinnati, apparently. Volunteers hope WMKV someday can "power up" to include all of northern Kentucky and southwestern Indiana, then perhaps even bring their original programming via satellite to "sister senior stations" across America.

Alice Hornbaker is a freelance writer, veteran journalist, broadcaster and book author. She writes the column "Life After 50" for The Cincinnati Post.



Two broadcast veterans, Ernie Waits, Sr. (l), and Bill Nimmo, volunteer at WMKV.

"They wanted to show support for WMKV, give it legitimacy as it sought funding from the community at large. The station's main funding came from underwriting by businesses, grants, foundations and a federal Title III mass grant outreach. We think WMKV is an extremely important asset to this community," he said.

Bayowski said the station staff hopes it can someday become financially independent of Maple Knoll Village, which owns the license.

"But for the first 12 years, from the concept of starting a radio station for seniors to reality, it was Maple Knoll Village and Southwest Ohio Seniors' Services, under the leadership of CEO Jerry Smart, that provided all the seed money," he said.

### Celebrity central

Celebrity appearances at WMKV are a daily happening. Bill Nimmo, a retired broadcaster who worked for Johnny Carson, Jackie Gleason and Groucho Marx, does a large share of the station's announcements and station breaks. He also hosts his own WMKV show, "Two on the Aisle," playing original Broadway hit musicals.

Nick Clooney, host of cable television's American Movie Classics, recorded station breaks for WMKV. Jane Heimlich, author of "What Your Doctor Won't Tell You," records health tips played daily.

Other radio figures in the Cincinnati area are aware of the station.

Randy Michaels, chief executive officer of Cincinnati radio giant Jacor

## Station Stunt Takes Its Toll

Radio gimmickry can be costly, but in the new world of group ownership, sometimes that's a good thing. Just ask the managers of Wild 107, KYLD(FM) in San Francisco.

The station paid the Bay Bridge toll for every motorist May 13-16. It was not only a good promotion; it was partial payment to the city for a fine against the station after a stunt in 1993.

Bob Visotcky, vice president and general manager, said the original stunt involved then-morning man Mancow Muller, who wanted to make a point about President Clinton's infamous airport haircut that resulted in a temporary delay and rerouting of air traffic.

"(Muller) sent his van driver to get a haircut and blocked the Bay Bridge," Visotcky said. The incident resulted in a \$1.5 million dollar fine,



KYLD trucks publicized the Bay Bridge toll payment.

levied by transit officials against United Broadcasting, which owned Wild 107 at the time. Part of the settlement was the toll payment.

Evergreen Media Corp.

now owns Wild 107, and is reaping the public relations benefit of United's toll payment.

"It took four years for them to pull this off," Visotcky said. "We got the credit."

— Chris Hamaker

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# Big Steel: Know Thy Tower

**Ed Montgomery**

This is the 11th installment in a multi-part series intended "to make the new generation of FM broadcast station managers aware of the equipment for which they are responsible and to help them periodically review how the equipment is operating." The previous article appeared May 28.

Towers and antennas often are neglected. For some managers, these components of the air chain are out of sight and out of mind.

Many FM antennas still are attached to the TV towers of formerly co-owned facilities. Some AM broadcasters acquired FM and TV outlets in the early 1950s, then sold them off as ownership laws changed. However, many new FM owners continued to lease space on these TV towers. FM antennas are still found on AM towers. Be familiar with your lease agreement. If you haven't read it lately, do so now.

With the approval of digital television (DTV), the FCC already has proposed a second channel for existing television broadcasters. During the transition to digital television, TV stations will transmit both an NTSC and a DTV signal. The question surrounding the lease for the FM manager is: Can the tower sustain the weight of an additional TV antenna and transmission line? Towers are designed to support a maximum load. Additional antennas may be prohibited. Because the television broadcaster must add a new antenna and transmission line, it is quite clear who is going to have priority on the tower.

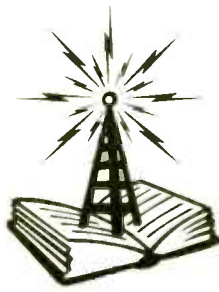
Ownership of a tower is advantageous. It can generate extra income for the company, given the ever-increasing demand for cellular phone systems, paging companies and other radio services. A tower also adds to the value of the station. Also, no one can kick you off after your lease expires.

However, towers have their limits as to how much weight they can support. A tower already supporting a TV and an FM antenna, or just an FM, may not be able to support the additional weight of other transmission systems.

The FCC requires tower owners to register them if they require FAA notification. Part 17 of the FCC rules states any tower over 200 feet requires lighting and painting to warn aircraft. Part 17 defines how many bands of paint, obstruction lights and flashing beacons are needed for towers of specific heights.

An alternative to painting the tower orange and white is to use high-intensity white obstruction lighting. The process of constructing towers in residential areas sometimes becomes a struggle between the broadcaster and the community.

Many residents do not want to see an orange and white monster rising out of their town. Towers with high-intensity lighting need not be painted in this manner. However, the neighbors must then accept the continuous flashes of light. Most of this energy is directed in a horizontal plane. Up close to a tower, it may be difficult to tell if these lights are operating. The flashing will be more visible a half-mile away. The FCC requires visual check of the lighting system once



every 24 hours and that the system be inspected every three months.

The FCC is undertaking a tower registration program. To be sure you understand your responsibilities as a tower owner or leaser, talk to your engineer and your communications attorney.

## Have an inspection program

Towers themselves should be inspected, at a minimum, every three years. This includes the transmission line and the antenna. The transmission line is attached to the tower on hangers to permit expansion and contraction as temperature changes throughout the year. The tower receives a lot of stress from wind. Over the years it may lose alignment and go out of vertical. Part of the tower inspection includes a check of the guy wires and the associated hardware related to holding up the tower. Have the structure checked for corrosion. The paint should have the proper amount of color.

Rust will build up on these structures, and many times management never sees it. Over the years, towers have been the victims of aircraft encounters, failed guy wires and ice. Preventive maintenance is the least expensive way to service the tower. Know its condition. Educate yourself about this important part of your station. Develop relationships with trustworthy tower service companies. Troy Conner's regular *Man of Steel* column in *RW* is an excellent source of ideas for managers as well as engineers. (See page 29.)

The antenna also needs attention. It is connected directly to the transmission line and attached to the tower. Any antenna deicing equipment must be inspected. Some antennas are encased in radomes to protect them from weather. Have these fiberglass covers inspected for holes and cracks. As previously mentioned in this series, the VSWR meter and the pressure gauge on the transmission line can alert you to problems.

If everything remains relatively stable through all types of weather, you can assume that the system is working satisfactorily.

If the system seems to deteriorate slowly, with an ever-increasing VSWR or excessive loss of nitrogen or treated air in the transmission line, inspect the system, find the problem and have it repaired. Lightning strikes to antennas and transmission lines can burn holes in them. Most of the time, the tower has a lightning suppression system to ward off or redirect strikes, but lightning can hit the structure and bounce on to the antenna and or transmission line. It does help to make sure the tower is grounded properly. Make this part of the inspection process.

## Get expert help

If you suspect a problem within the transmission line or antenna, notify the engineer in charge immediately. If a tower service is sent to inspect the damage, be sure to get reports from your engineer or contractor as well as the tower company. This discussion may lead you to request a second opinion from another tower firm.

A tower service must be familiar with

the specifics surrounding broadcast antennas and transmission lines. These components usually are heavier and carry much more power than public safety and business radio systems. There are hundreds of horror stories regarding companies doing the wrong thing. Make sure you find a company with broadcast experience. Ask for references.

Another antenna found at most broadcast sites today is the parabolic dish used for satellite feeds. These dishes are aimed at communications satellites positioned in geo-synchronous orbit, 22,300 miles in space.

Satellite receiving systems often are the responsibility of the network that supplies the service. Most local stations do not have the equipment and tools necessary to repair satellite equipment. These systems operate on low voltages and often will run years without problems.

The satellite signal is concentrated at the center of the parabola into the feed horn, which contains the actual receiving antenna. The satellite signal is weak. The antenna must be aimed precisely, and the feedhorn aligned and polarized properly. Mount the dish firmly. It must not move in the wind. If the dish is to be mounted on a roof, make sure the roof can handle the extra wind-loading it will produce.

Dishes come in two forms: solid (either metal or fiberglass), and screen mesh. The dish must keep its shape through all weather conditions. Snow can reduce or eliminate a signal. Coat the dish with automobile wax; snow will slide off more readily.

Satellite dishes come in two sizes. The large dish, approximately 9 feet in diameter, operates in the C-band. The smaller dish, about 3 feet in diameter, operates in the Ku-band, a higher frequency range.

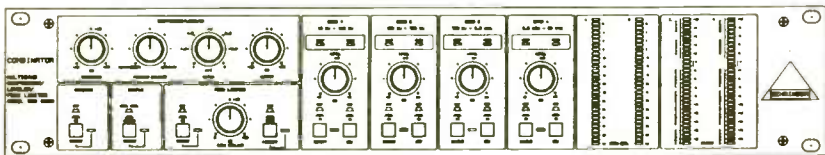
Both are vulnerable to atmospheric conditions. "Rain-fade" occasionally



Photos by Ed Montgomery

This AM tower also supports three FM antenna systems and several other services.

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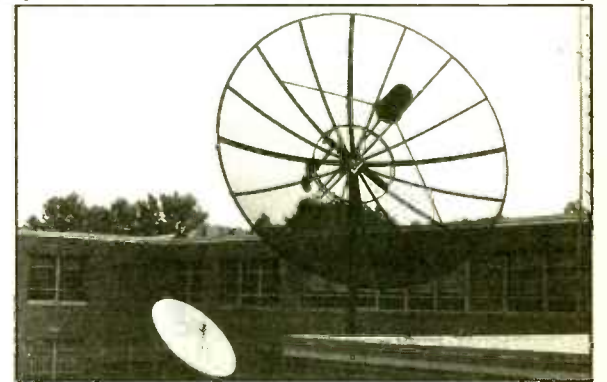
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Satellite receive antennas can be solid or screen mesh. Feed horns are located at their focal points.

occurs when raindrops have the same size as the received radio signal, causing a weak signal or signal loss. The sun also causes signal loss as it travels across the equator at the beginning of spring and fall. The sun will be directly behind the satellite, causing signal loss. Most services predict when this will occur and offer alternative plans for that time period.

Periodically inspect the satellite receiving dish and the transmission line coming into the building. Make sure no one has accidentally cut the line and that pests have not built a home in the feed horn — two common reasons for loss of signal.

■ ■ ■

*Ed Montgomery is lab director at Thomas Jefferson High School for Science and Technology in Alexandria, Va., and a part-time radio engineer. He also taught college-level broadcast engineering technology and has written educational columns for RW. Contact him via e-mail at [emontgom@lan.tjhsst.edu](mailto:emontgom@lan.tjhsst.edu)*

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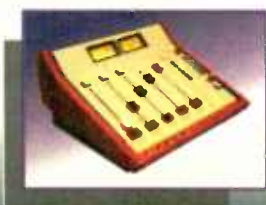
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# Provide Promotions To Boost Ratings

Sharon Rae

How can radio stations move away from the pack in an ever-crowded marketplace and establish a position on top? Special events promotions that produce ratings and revenue can do the trick.

"Promotion is such an integral part of radio broadcasting," said Mike Mahone, executive vice president for services of the Radio Advertising Bureau. "Stations depend on promotions to establish formats in the marketplace and to build and

maintain an audience.

"Advertisers are looking for ways to enhance their visibility in the marketplace and to increase their return on investment," he said. "Their marketing and advertising expenditures and promotions have become a real important aspect of marketing on a day-to-day basis for many national, local and regional advertisers."

These tips and suggestions were offered during a panel discussion at NAB '97.

"The station that serves the listener first, serves the advertiser best," said George



The ultimate wedding: a fine idea comes to fruition.

Hyde, RAB executive vice president of training. "There are some very definite

social benefits associated with (promotions) in addition to the revenue generation possible."

## Re-conceptualizing radio

Hyde spoke of re-conceptualizing radio stations as marketing companies that happen to own radio stations.

"I think there seems to be a critical mass of people who are really firm in their belief that it's time to re-conceptualize how we view" the medium, he said. "If you think about your business as

**The station that serves the listener first, serves the advertiser best.**

— George Hyde  
RAB

being a radio station, whose sole focus is selling commercial announcements, you will limit your potential growth. You have to expand and think about all the things (radio) can do with our ability to create excitement, draw crowds and get people emotionally involved. How can we tap into that on behalf of clients?"

Making a commitment to event marketing is key to increased ratings and listener loyalty. That, according to Mahone, is a major reason for radio stations to do promotions.

"In radio, we recognize the importance of doing something positive for the community," he said. "Community involvement is integral to successful radio broadcasting. We want to help clients achieve their marketing goals, and of course to make money, too."

## Trick or treat

Mahone cited several sample promotions to illustrate the point. One event was called "Trick or Treat Street" and took place in Sacramento, Calif.

"The promotion invited listeners to bring their little ghosts and goblins to Trick or Treat Street for a safe Halloween," Mahone said. "With sponsorships through many clients, we were able to create a special place and a safe place for this time-honored tradition of trick or treating."

The promotion involved several clients and a "Showcase of Homes" model home community. Each house was "sold" to a participating sponsor who was then responsible for hosting the house and providing the treats to the kids.

"The home builder paid a fee to be involved in the program, and in one case,

See EVENT, page 42 ▶

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Now comes the FP33. With new high-precision sealed input potentiometers, an improved battery switching circuit, internal headphone level adjustments, and durable 3.5mm jacks, the FP33 takes portable mixing to the next level.

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# Push Positive Promos

► EVENT, continued from page 40  
the A&W franchise in the marketplace also paid to be a sponsor for the home," Mahone said. "The price of admission was a can of food, donated to a local food bank. So we have a cause-related tie-in with this promotion."

Last October marked the 10th year for the "Trick or Treat Street" promotion in the Sacramento market.

"They have between 5,000 and 7,000 participants each year," Mahone said. "Plus the event got lots of local television coverage and was heavily promoted in the newspaper ... and of course the radio station did live remote broadcasts."

Hyde recalled "one of the finest ideas

I've ever seen implemented at a radio station."

According to Hyde, "The Ultimate Wedding" was conducted in association with Tom Thumb Stores and drew in almost 11,000 entries. "The winners got everything you would want at a wedding," he said. "The wedding gown, tuxedo rentals, bridesmaids dresses, wedding bands, limo services, a horse-drawn carriage ride, the honeymoon, plane fare, a queen-sized mattress and box spring, a gazebo for the wedding ceremony, a singing group to perform at the ceremony, and a number of things from Tom Thumb, including floral arrangements, invitations and the wedding cake."

So what's the catch?

"The hitch on this was they had to be married between the produce and the floral departments at the Tom Thumb grocery store," Hyde said. "And it's not like we pandered to the TV folks to get coverage for events, but we did pretty good



Promotions and higher ratings go hand-in-hand.

with this one. It led to all kinds of interesting coverage."

"This was an opportunity for Tom Thumb to bring some of their vendors into the picture," Hyde said. "A lot of the funding came from vendors within Tom Thumb. Participating sponsors purchased the packages of the wedding gifts."

Hyde warned of some of the promotional risks from an operational perspective. One example was a scheduled promotion with the Cincinnati Zoo.

"I was so happy to have the Cincinnati Zoo pay attention to us," he said. "They came to us and said, 'Let's do a \$1.98 Day at the Cincinnati Zoo.'"

"I thought it was great until a buddy of mine came into my office who was on the board at the zoo wanting to talk about it. The event was scheduled for March 15th, and he said, 'What do you think the

average attendance at the zoo is on a Saturday in the middle of March?'"

"I really had no idea, and he said, 'The average attendance on a mid-March Saturday at the Cincinnati Zoo is 30 paid admissions.'"

"So we decided to re-think the thing."

Legal ins-and-outs also can be a minefield. Mark Prak is an attorney with Brooks, Pierce, McLendon, Humphrey & Leonard in Raleigh, N.C. Prak stressed proper planning, forethought and execution.

"We want to try and give broadcasters a way to carry out contests and promotions in a way that creates exciting events that people enjoy, while at the same time minimizing exposure to legal liability for problems that can develop at those events," Prak said.

Prak used the example of an event involving physical exertion.

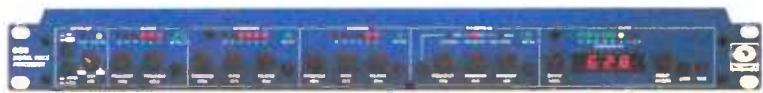
"Whether it's a running event, swimming event or golf tournament, you've got to have adequate emergency medical care available."

Prak also said proper tie-breaking procedures should be in place. "I've had a couple of clients have to give away two boats," he said. "I've had a guy have to give away two Range Rovers."

"One thing I always encourage people to do is talk to your lawyer," Prak said.

"Although there may be times when, God forbid, you decide to go ahead and take a certain amount of risk. Lawyers are notoriously risk-averse and broadcasters are sometimes risk-takers, and that's what makes our industry fun. But I do think you have to be smart about it."

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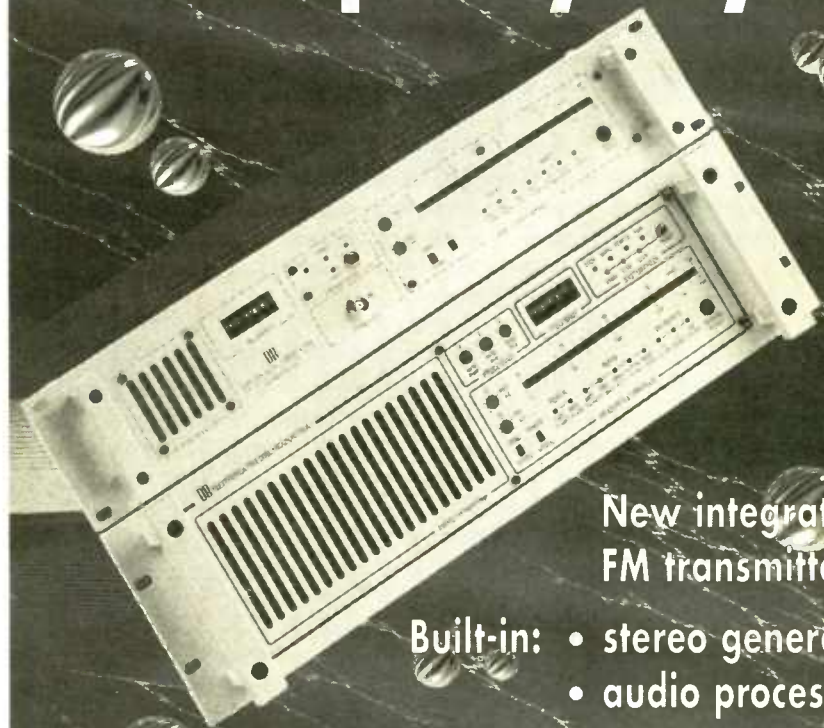
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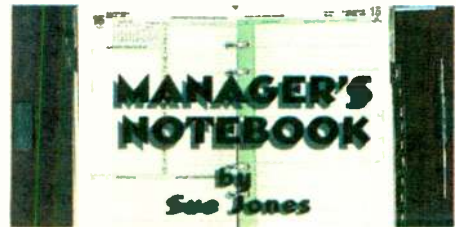
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# Strive for Long-term Success

Before you enter into another debate about which management techniques propel a radio station to the top of its market and keep it there, take a look at those stations that have dominated their markets for several consecutive years.

These stations share the same philosophy of valuing people more than assets and profit.

Profits and assets certainly are critical to the success of a radio station. Assets are just the means to earning the profits. A station that focuses only on profit eliminates people to save its plant and equipment, which it considers the essence of its being. However, a station that manages its staff correctly will reap the prof-



its, while the assets remain guarded and protected.

## Is there life out there?

Assets and profits are like water: necessary for life, but not the purpose of life. The purpose or objective of the station is to obtain the largest market share, maintain that share and survive for the long term. Profit is a product of achieving these objectives.

If these objectives are accomplished, a profit will be made. Market share could decline if the objectives are not met, jeopardizing the survival of the station.

Managers must choose to produce profit for the inner circle of managers, owner(s) and investors, or choose to develop a high-performance staff.

In stations where the benefits and profits accrue for only a few people (managers, owners and investors), all other staff members become the worker bees that support this group.

The contract these staff members have with the station is to trade their time and expertise for money (their salary, commission and bonuses).

There is ample evidence from organizational behavioral sciences that shows this type of arrangement does not inspire people to give their all or to feel much loyalty to the station or its management.

This type of station also cannot survive much heat from the competition. Because the staff feels no loyalty, they will move on when the ratings begin to slip, to more secure ground with a competitor or in another industry, rather than pull together to put the station back on the top.

More money above adequate compensation will not motivate employees to work harder.

Before they do, staff members need to know that the station management is interested in them as individuals. They need to be interested in the fate of the station. Both the station and the employees

See NOTEBOOK, page 45 ▶

# Greaseman Relocates

The newest competitor for Washington morning drive-time listeners is an old favorite.

"The Greaseman Show," syndicated through Westwood One, can now be heard on CBS Radio affiliate WARW(FM), the only classic rock station in the market. WARW will serve as the new base of operations for his syndicated show, which is also carried in Jacksonville, Fla., and Roanoke, Va.

Station management hopes Greaseman Doug Tracht can recapture the sizable audience he amassed during his 10-year stint at WWDC-FM, from 1982 to 1992.

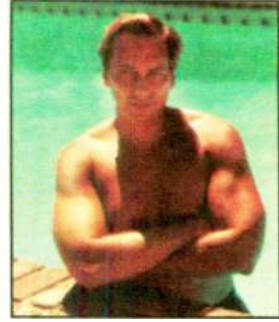
The deal came together quickly, with the

Greaseman flying out of Los Angeles on the Friday prior to his debut the following Monday in Washington. "The ring dang doo's coming back at a high rate of speed!" the Greaseman said.

The radio landscape in Washington has changed since the Greaseman's departure. CBS Radio now owns five stations in the market, including the Greaseman's prior affiliate, WJFK-FM, which aired his program at 7 p.m. weeknights.

The move is a re-launch of sorts.

Tracht is confident he can re-establish and build on his fan base. "It'll be a lot more localized. It'll be more of a D.C. show than previously," he said.



The Greaseman

Tracht hopes to separate himself from the morning drive pack by concentrating on humor rather than run-at-the-mouth commentary on politics or celebrities. "People miss the stories and the jokes. You don't have a lot of jokes and funny stuff going on nowadays," he said.

"You've got a lot of anger and tirades and ranting and raving on the other shows. You don't have a show that's just about laughter."

— Chris Hamaker

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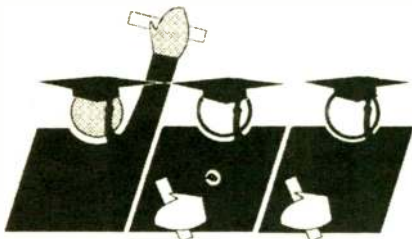
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## 2 Bowling Pins + 2 Machetes

The "Education President" should be proud.



"The Best of Our Knowledge," now in its seventh year, tackles educational issues affecting students in grades K - 12. Recent program topics include juggling to teach math, the paperless classroom and pre-schoolers learning from disabled classmates.

The free weekly program runs 25 minutes and can be heard on the Web at [www.audionet.com/pub/wamc/tbook.htm](http://www.audionet.com/pub/wamc/tbook.htm)

For information contact Mary Winans at National Productions in New York, (800) 323-9262 (ext. 104); or circle Reader Service 102.

## Desktop Demographics

If you work for an ad agency, a radio network or a major radio advertiser, the Radar PC 2001 desktop data system can make your life easier.

Statistics compiled by Statistical Research Inc. can be used with Radar PC 2001 to determine planning models as well as schedules for alternative advertisers.

The latest statistics indicate that more than 135 million listeners tune in to the ABC, American Urban, CBS and Westwood One Radio Networks, all of which subscribe to RADAR services. That figure corresponds to 62 percent of the 12+ demographic. Subcategories

show that as men grow older, they listen to the radio in greater numbers.

For information contact Miriam Q. Murphy at Statistical Research Inc. in New Jersey, (908) 654-4000; or circle Reader Service 126.

## Real Estate Services From Broadcast Vets

Former broadcasters have parlayed their knowledge of the industry into a "broadcast brokerage" organization that can assist you in buying, selling or marketing a station.

The Exline Company consists of five licensed real estate sales people and brokers who have prior experience in the broadcasting arena. The company has a database listing more than 1,200 pre-qualified clients.

For information contact Andrew P. McClure at The Exline Company in California, (415) 479-3484; or circle Reader Service 150.

## Barter for Joy

If you've got the time, Kempff Communications Co. has got the programming. "Joy," a 60-minute compilation of inspirational music, is available from



Kempff on a barter basis. The program includes three minutes of commercials.

"Joy" is transcending format barriers.

The market-exclusive program, which must be aired between 5 a.m. and 10 p.m. Sundays, is not limited to stations with a religious format. Oldies, easy listening, adult contemporary and nostalgia stations all air "Joy."

For information contact Ron Kempff at Kempff Communications Co. in Missouri, (800) 257-5448; or circle Reader Service 174.

## Big Sounds for a Small World

If your idea of world music artists goes as far as Ace of Base and Julio Iglesias, the NBG Radio Network has a three-minute dose of medicine for you.

## Colors of the World

"Colors of the World" looks beyond the borders of America to chart-topping bands in other parts of the world. The three-minute program samples musical traditions and offers personal sketches of different artists.

Another new three-minute program from NBG is "Teein' It Up With Peter Jacobsen," hosted by PGA Tour player Peter Jacobsen. Aimed at "golfers of all ages and skill," the program serves up golf-related tips, stories and interviews.

For information contact John Holmes at NBG Radio Networks in Oregon, (503) 293-2601 (ext. 770); or circle Reader Service 198.

## This Is Serious News

"SW Networks takes entertainment news as seriously as other radio networks take hard news," said Dan Forth, president and chief executive officer of SW Networks.

The claim is backed by the recent opening of a new SW Networks studio in Los Angeles. The new facilities provide inside access to Hollywood, and allow promotional efforts. The Los Angeles Bureau chief is Mari Cartel.

In other SW Networks news, KXTR(FM) in Kansas City, Mo., and KHFM(FM) in Albuquerque, N.M., signed on to carry the 24-hour SW Classical format.

For information contact Kristy Bremer at Pryor and Associates, (818) 382-2233; or circle Reader Service 222.



Dan Forth

## Six Hours of Financial News During the Weekend

Between the time the stock market closes on Friday and reopens Monday morning, you can improve your investment strategies.

United Stations Talk Radio Networks has picked up "The Charles DeRose Financial Advisor" program, airing from 11 a.m. to 2 p.m. Saturday and Sunday. The show launched on more than 50 stations.

DeRose tackles financial and investment issues, fielding listener phone calls along the way. Prior to hosting his own radio program, DeRose spent 20 years with an investment firm and offered expert advice on television and radio programs.

For information contact Julie Harris at United Stations Talk Radio Networks, (212) 869-1111; or circle Reader Service 7.



Charles DeRose

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READER SERVICE NO. 43

# 66 Years Ago

Reprinted from Radio World  
(June 27, 1931).

Editor's note: The RW of old, printed for a time in the 1920s and 1930s, and today's RW are unrelated except in name.

## DR. KLEIN SEES BRIGHT FUTURE FOR INDUSTRY

By DR. JULIUS KLEIN  
Assistant Secretary of Commerce

[An address delivered before the annual convention of the Radio Manufacturers' Association in Chicago.]

World conditions of the last two years have signally failed to have any noticeable effect on the forward march of radio. People throughout the world are and have been buying radio equipment above the scale of past years, however prosperous they may have been.

The number of sets in use is constantly increasing. The world total is now estimated at 26,000,000 to 30,000,000, and an increase of 250,000 monthly is maintained. Foreign countries are calling upon us for more and more radio equipment. Production and domestic sales are also moving forward with astonishing momentum.

Radio exports have grown by leaps and bounds since the inception of broadcasting. From 1921 through 1930, radio apparatus to the value of \$99,580,680 left the United States for use in other lands. Nearly 50 per cent of this total was shipped in equal amounts during the peak-and-depression years of 1929 and 1930. But one decrease in radio exports is shown in any year since it has figured in our export statistics, and that in the midst of our greatest prosperity.

### 1931 Figures Showing Gain

The 1926 total was less than 1925 because 1925 was unusually high. But 1929 was practically double 1928, and the so-called "slump year," 1930, was just \$11,000 higher than the 1929 total of \$23,122,147. Early 1931 figures are exceeding those for the same months of the past two years or any previous year.

The production of radio equipment as reported biennially by the Census of Manufactures continued to advance through 1929, and trade estimates indicate that this year will mark a further increase.

From \$54,000,000 in 1923, the production jumped to \$170,000,000 and \$183,000,000 and on to \$375,000,000 in 1929. According to trade indices, domestic sales have similarly increased.

### Industry Rode on Crest of Wave

These are the records of the radio industry. One feels at first inclined to congratulate the industry, but rather than that I bear a gentle admonition. You, the radio industry, have ridden on the crest of a wave of popularity, which, if I may speak frankly, was not entirely the result of your own creation.

Radio as a truly amazing piece of scientific wizardry is a success, and you are its beneficiaries. The future beneficiaries will be those who recognized their business as an orderly, far-sighted business rather than a speculative venture with an extraordinary new art.

You have heard it said, and with substantial authority, that one of the invaluable elements of business reconstruction is the vigorous participation of new industries. In that respect yours was an invaluable contribution in accelerating our recovery after the slump in 1921-22.

# A Recipe for Success

► NOTEBOOK, continued from page 43  
need to care more about each other.

A radio station is how well more than the sum of its people. How well they perform will determine the quality of the signal as well as the effectiveness of the sales, programming, on-air and administrative staffs.

To build a station that sustains market share and is profitable, managers must create a community, or "staff family," that enjoys working alongside each other and is rewarded in ways other than salary for their contributions to the station's success.

A sense of belonging boosts the morale of even the most diverse staff members, and is critical when the station is dealing with declining ratings and revenues.

Stations sensitive to employee needs provide a human contract and a sense of mutual trust. Individuals understand the station will help them develop their potential in exchange for their effort and commitment.

So how can you create this staff family? The most important step for manager is to establish shared values among the staff.

The key here is to structure the functional areas of engineering, programming, sales and administration in an integrated way.

## A sense of belonging boosts the morale of even the most diverse staff members.

Each functional area should understand its contribution to the station's success and that all areas work together to benefit everyone. In short: emphasize teamwork and collaboration instead of individual or departmental competition. One functional group cannot outweigh the other.

Achieving this strategic balance is similar to flying an airplane. The pilot has the glamour job, but he or she could not fly the plane without the technical support of the ground maintenance crews and control tower.

An airline cannot be profitable without the efficient operation of ticketing, baggage handlers and stewards in the cabin who assist the passengers and influence the passengers' opinion of the airline. The airline could have the best technical staff and best pilots available.

However, if the passengers are delayed, lose baggage or sense that the airline does not appreciate the business, they will try another airline.

### Teamwork tips

Managers can encourage this understanding of strategically balanced functional areas by fostering teamwork and collaboration. There are several ways to do that:

**Eliminate superstars.** Publicly communicate that everyone contributes to the station's success. Promote the idea that all staff members are colleagues, working together toward the same goals. Support the attitude that if a change does not work for all of you, it does not work for some of you.

Recognize every staff member for their contribution when you reach an identified goal. Send each one a handwritten

thank-you note. Give them all lapel pins.

**Use the term "talent" for everyone.** Every staff member (on-air staff, receptionist, traffic manager, accountant and programming staff) has helped reach the goal.

**Have fun.** Your staff will spend 40-60 hours per week at the station. If it is a fun place to work, they will jump out of bed in the morning and love to come to work. No one enjoys going to a nose-to-the-grindstone workplace, even if they are compensated well.

**Do things together.** It may be as simple as donuts provided by the station every Tuesday morning. I know of some

radio stations that have an annual awards ceremony at a restaurant or community hall for everyone at the station. The staff dresses formally and everyone receives an award for something.

Check this list against your own operation. Create some of your own ways to develop a staff family.

Those stations that have focused their efforts in building the staff instead of building assets and profit are the ones on top in their markets.


Their profits are also the highest in the market. Best of all, the staff dedicates itself to keeping it that way.

■ ■ ■

Sue Jones is a principal in a communications management firm located in the Washington area. Contact her at (703) 503-4999.




# 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 origination center for SW Networks.



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# To Be Aware or not To Be Aware

Alan Haber

You gotta be aware to be there if you're gonna be anywhere, so there! That's the advice my pappy used to impart to me when I was but a tyke and



## BRS Webcasters Directory

*Radio Stations broadcasting on the Net!*

rocked on his wooden knee to the soothing, cyber-iffic strains of Yanni Manilow, the cosmic music maker that could only exist up here in cyberspace.

Yeah, that seems ever so long ago. Although I've outgrown the magic that is Yanni M., a select few on the Haberspace staff still consider him a feast for the ears and always keep him as close as their compact disc players. Hey, you have CD players? Ya know, I'm not always sure just how far ahead we are up here at the ever-musical, ever-noteworthy global Haberspace headquarters.

### BRS: Be its guest

However far ahead we are, we seem to be running even with you all down there, at least as far as listening to radio on the Web. Yup, we're diggin' the cyber-radio scene up here, too. By the looks of

things, the number of stations webcasting to the masses is steadily increasin' — a recent quick peek at the BRS Webcasters Directory ([www.brsradio.com/webcasters](http://www.brsradio.com/webcasters)) showed 269 domestic stations doin' their thing, along with 145 international types, 22 networks, and a whoppin' 42 Internet-only concerns.

Yup, things are hoppin' on the wild and wacky Web. Speakin' of the BRS Webcasters Directory, you just can't say too much about it. This is the premier resource, the number one you-gotta-be-there place to go for links to webcasting radio stations.

Hey, your station should be listed, if it's not already and it's webcasting. If your station isn't webcasting, well ... you know the drill, right? Get on the webcasting stick!

For those not acquainted with the BRS directory, here's the lay of the land. Stations can be called up by call letters and format (17 of 'em). You can also search for international, Internet-only, and network webcasters. Neat, huh?

One of the absolutely coolest things about this site is the BRS Web Radio "tuner." If you have Microsoft Internet Explorer 3.0 or Netscape Navigator 3.0, tune in! Just choose the format that floats

yer boat, the station that's callin' your name (so to speak), and dig those crazy sounds! It's as easy as that for listeners who may be listenin' to your station from outside your local coverage area (remember, the Web is the world is your audience).

If your station isn't listed on this top-flight site, simply click on the "Submit a Station!" button and fill in the questionnaire (won't take but a sec!) That's all



there is to it. And, next time someone's looking for some groovy oldies or some rip-roarin' rock (or whatever it is your station plays), he's gonna come lookin' for you!

### Around the Netclock

Are there other places you can get your webcastin' crazy station listed? What are the chances of a salesperson calling you at work at the most inopportune moment of the day? Pretty good, I say! Why not take a cyber-gander at **NetClock** ([www.ypn.com/mm-bin/genobject/netclock\\_front](http://www.ypn.com/mm-bin/genobject/netclock_front)) and the granddaddy of 'em all, **AudioNet** ([www.audionet.com](http://www.audionet.com))?

Rockin' and rollin' with the *Ray Conniff Singers*: They're pumpin' out "50,000 watts of high-altitude rock and roll" and apparently they mean business! They, if you must know, are the folks at **WEBK(FM)** in Killington, Vt. Their site, situated at [www.webk.com](http://www.webk.com), is very, very cool.

The home page features a colorful-to-the-max-i-mum clickable drawing. Click on the red secretarial-type chair and check out the air staff, complete with pix



and interesting facts (for example, Spider Glenn's favorite band is The Ray Conniff Singers, Dan Spencer's sign is Gemini-Schizoid, Dee Champagne's life motto is "Only the good die boring," and Geo's shoe size is "Bozo").

Click on the guitar and check out a list of local concerts. Take a look at the station's T-shirt and hat that can soon be ordered on line if you plunk down your hard-earned bucks.

Peruse to your cyber-heart's content in the K-105 Mall. Check it out. It's a rockin' gas, man!

*A-MOR, baby*: Farmingdale, N.Y. (hey, that's Haberspace's hometown!) middle-of-the-road station **WLUX(AM)** is on the Web with a spiffy-lookin' site,



which you'll find at [www.wlux.com](http://www.wlux.com)

Sporting a piano keyboard along the left side of the screen, the home page features the station's nifty logo at the top and its slogan — "Traditional Popular

## BRS Webcasters Directory ... is the number one you-gotta-be-there place to go for links to webcasting radio stations.

Music With A Twist" — right under it. Info on and pix of personalities are here, as is the station's coverage map, a list of station event and a handy-dandy feed-

**AudioNet**  
"The Broadcast Network on the Internet"

back page. Feel like sending an e-mail to the WLUX folks? Go on. Put fingers to keyboard. Hey — the MOR, the merrier!

*Hike! Home run! Gimme a frank!* This month, I hiked on over to **WTKZ(AM)** in Allentown, Pa. Well, not to the station exactly — I made a stop at the station's website, [www.wtkz.com](http://www.wtkz.com) This is sports done right — in fact, a big "right on" goes out to the station's staff for their cyber-efforts.

Check out the cool-lookin' home page.

Swap the WLUX white background with black and its piano border with playing field grass, and you've got an idea of what's in store for you here.

Find out all about the station's broadcast offerings. Immerse yourself in everything sports. Hit a home run like these guys have done!

*Space to grow*: Here at the ever-accumulating-stuff global Haberspace headquarters, we are deep into our annual spring cleaning exercise, preparing for a top-secret change in operations that is so top secret, even our mothers don't know what's goin' on.

You (and our mothers) will know next month however, when everybody's favorite pooch, Poochy the Cyber-Mutt, once again takes over this space. Hey, we don't call him Poochy for muttin' (groan). 'Til then!

Alan Haber likes to wear T-shirts from radio stations around the country. Reach him at [zoogang@earthlink.net](mailto:zoogang@earthlink.net)



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# MARKETPLACE

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Marketplace, Radio World, Manager Editor, P.O. Box 1214, Falls Church, VA 22041.

## 360 Systems DigiCart/II Plus

Built upon the DigiCart/II, the new DigiCart/II Plus enhances storage capabilities and offers new removable media options, making it an ideal replacement for analog tape machines and DAT recorders.

DigiCart/II Plus combines a hard-disk recorder, a mini audio workstation and a digital cart machine in a single hardware package that occupies no more space than an analog cart machine.

Recordings can be stored on both internal and a removable disk drive that uses a ZIP format. Three sizes of hard drives are offered, with a maximum of 8, 16 or 24 hours of recording time in AC-2 mode.

An optional external Hard Disk System enclosure is also available, bringing the total on-line storage capacity to more than 144 hours.

For more information from 360 Systems, contact Steve Cunningham in California at (818) 991-0360; fax: (818) 991-1360; or circle Reader Service 6.

## Hewlett-Packard Test and Measurement Catalog

Everything from analyzers to X-ray test inspection is covered in the 1997 Hewlett-Packard Test and Measurement catalog. The free 656-page catalog is an in-depth guide to products, solutions and services designed to make your job easier.

To order, contact the Hewlett-Packard Test and Measurement Call Center in California at (800) 452-4844; fax: (800) 452-4844; or circle Reader Service 30.

## Solid State Logic Aysis Digital Console

Designed for remote broadcast vehicles and smaller control rooms, the Aysis enables users precisely to tailor the system to individual needs.

The Aysis provides users with a dedicated control surface that is optimized for real-time mixing operations. The central eight-channel bay may be complemented with additional eight-channel bays. Each bay can be fitted with up to four different dedicated control panels.



All console controls are fully automated and may be snapshot reset. The Hub Router Resource Manager is standard and includes a range of I/O options enabling mixed outputs from Aysis to be freely distributed to other users within the facility.

For more information from Solid State Logic, contact Debra Pagan in New York at (516) 692-8262; fax: (516) 692-8263; via e-mail at: dpagancomm@aol.com; or circle Reader Service 54.

## Denon DN-M1050R MiniDisc

Engineered for recording and broadcast production studio environments, the DN-M1050R MiniDisc Recorder/Player offers a comprehensive list of editing functions, including Divide, Erase Track/Disk, Combine, Move and Track/Disc Name.

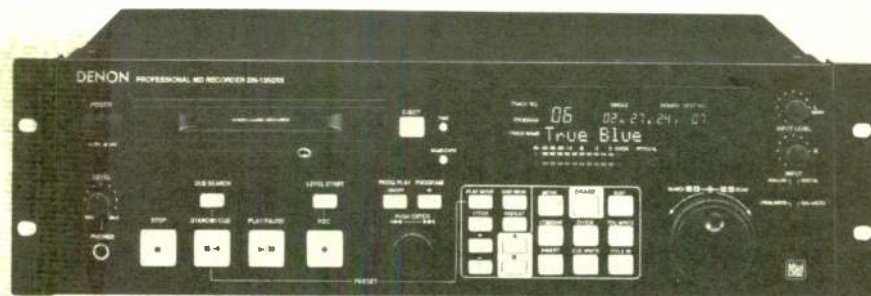
An external IBM compatible keyboard can be used to perform playback, recording, program input, editing and other operations.

Cue signal points can be recorded (up to five points per track) at desired points

on a disc for quick referencing.

An optional Hot Start feature can be added, allowing up to 20 tracks to be loaded into memory locations for instant playback.

For more information from Denon, contact the company in New Jersey at (201) 575-7810; fax: (201) 808-1608; or circle Reader Service 78.



## The Dynamax MX/D Digital Audio Console

- Conventional 8 Channel On Air Layout
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- A&B input select switches with LED indicator
- LED lighted buss assignment switches for PGM, AUD, MONO and CUE
- Full LED metering for all buss lines
- Count up event timer standard
- VCA monitor, cue and phone level control
- Full monitoring/cueing facilities
- Built-in cue amp with speaker and amplified stereo 8-ohm headphone output
- Independent A/B remote start and stop
- Remote module on/off control
- Mic pre-amp on every analog input module
- Lexan overlay on all control surfaces
- Solid steel construction for RF immunity
- Remote power supply
- XLR input and output connectors

### INPUTS: (16 Total)

- A/D input modules with 18-bit precision conversion
- Digital input modules with SRC AES/EBU connection
- Accepts SPDIF format
- Active balanced analog input levels with independent A/B level control

### OUTPUTS: (3 digital plus 3 analog)

- Digital AES/EBU output for PGM, AUD and MONO
- Analog active balanced output for PGM, AUD and MONO
- Active balanced monitor outputs

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World Radio History

# Studio Sessions

Radio World

Resource for Radio Production and Recording

June 11, 1997

## Brandon D'Amore's Amazing Sounds

Alan R. Peterson

As a production director, you are constantly under the gun to be better than you were yesterday. You always need new sounds: the latest and greatest laser zaps, wild textures, stabs, staggers and punctuators to enhance your productions.

For today's first job, you may need something that sounds like a car being cranked, spiraling off into space with a glassy, choral-like finish. For the next piece, only the sound of a 12-wheel steam locomotive traveling backwards in time through an underwater cave will do. And those are just the warm-up projects.

Time and again you turn to your trusty CD library of wild techno effects to find exactly the sound you need. The next time you do, you just might be grabbing an effect designed by Brandon D'Amore.

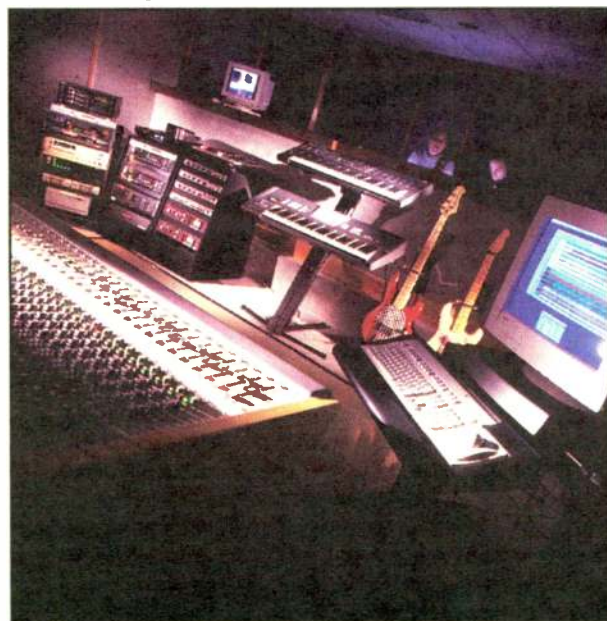
Meet the guy who invents the sounds that make you a hero every time. In fact, he might arguably be the guy to thank that you have a digital workstation today.

### Digital roots

D'Amore is a musician, composer and incurable cartoon fan who produces wild and creative production elements via his company, Brandon D'Amore Productions in Los Angeles. Over a decade ago in New York, he was fortunate to be on the scene when rudimentary digital recording and editing was just becoming a reality on large systems such as the Synclavier.

Throughout the 1980s, he not only rode the wave of recording and music technology, but hung right on the lip of it. His most recent sonic efforts have been packaged into a collection called "Invasion," which is being distributed via the AME Radio Networks, a division of Premiere Networks.

D'Amore's radio roots go back to his teens, but he was more interested in production than performance.



Brandon D'Amore Productions' Studio in L.A.

"Back in New York, I was doing sessions," said D'Amore. "I had my own little studio, so I started doing local com-

mercials: Fireside Deli, Tri-State Chevy Dealers. When you are 18 years old, that's a big deal."

While doing some freelance work, he was approached to write some music for television, which snowballed into other jobs at other studios. It was at one of these outside jobs that he first experienced the Synclavier keyboard system from New England Digital.

"The Synclavier had been around as an FM synthesizer for a while," said D'Amore, "then they added sampling to it. Then they started building this thing called the Post Pro — one of the first hard-disk recorders — and it totally blew my mind. When I first heard you could record with a computer, I couldn't think of anything but that. Ninety percent of my day was consumed with just that."

Because of the Synclavier's "elite" status (Stevie Wonder and Sting were early user-players), D'Amore found it exciting to be part of its development at such a young age. The studio he hung around was a New England Digital beta test site, and some of the suggestions he made were incorporated into the device.

"It was very exciting," he said. "We'd get the floppies from Vermont with code handwritten by the engineers ... hot off the press."

The early Post Pro units would only record and play back from a hard drive. There was no editing capability built in. But it was still "an awesome thing," as D'Amore puts it, and it would not be long before editing was a reality.

"The Post Pro is still an excellent machine," he said. "It's not a very graphic machine and it's not comfortable to sit down at, but if you understand it, it is an excellent machine."

### Going west

D'Amore's virtuosity with the Post Pro eventually took him from New York to Los Angeles around the time ABC-Watermark purchased its own Synclavier. "I came out here to run it for them and to turn it into a thing that made radio programs," he said.

In essence, this was ground zero: analog audio giving in to all-digital on a large scale for the first time.

Eventually radio's first all-digital show, "American Top 40 With Shadoe Stevens," was released on CD, with D'Amore calling the shots.

The early days of the endeavor were not without headaches. At the time, the ABC-Watermark Post Pro system was the

biggest digital recorder ever seen.

D'Amore recalls: "We had to put 45 or 50 songs in, a whole jingle package ... This was no 12-minute-a-track thing. Track time was a big deal; the biggest drive back then was a 300 MB Seagate, which meant 16 racks of 300 MB drives (4.8 GB total) for the whole show. It was the size of a refrigerator!"

That was enough capacity for about 7.5 hours of 44.1 kHz audio. It is amusing to note that a production of AT 40 could fit on a present-day Maxtor 5.0 GB IDE drive, for about only \$450.

No one had ever developed such a huge device for audio production. People were coming up to see it, "like the Wizard of Oz," D'Amore said. As such, it was an education for everybody.

Surprises discovered along the way included the cabling between the drives. "We were getting dropouts in songs because they were recorded across the drives," said D'Amore. "There were SCSI jacks on the back of the boxes, and the drives were not that close together to begin with. The cabling added up to about 21 feet, and there were too many cables daisy-chaining the system together."

Finally, a 17-year-old technician opened the back of the box and suggested connecting all the drives with short lengths of ribbon cable. The problem went away and the Synclavier was up and running.

### Four-by-40

The flexibility of the Synclavier allowed D'Amore to create many different versions of the same project — a feat we take for granted today with contemporary workstations, but considered revolutionary in the early days.

"We were doing four versions of AT40," said D'Amore. "An Armed Forces version, a network version, a non-commercial show for international distribution and one with different jingles for certain sponsors."

The machine had 15 outputs, allowing the computer to feed machines of different formats. For example, two-track 7.5 ips reels were dubbed for the Armed Forces, while DAT copies were run off for the CD pressers.

Following AT40, D'Amore began producing "The World Chart Show," freelanced for "Radio Express" and formed his own company.

Along the way, digital recording and editing had progressed. D'Amore was working with synthesizers and the Mac-based SampleCell and Pro Tools systems.

Then came the production library.

"A quarter-year into producing the show, I began working on the library," said D'Amore. "I had always been a musician and producer, and became a radio guy. Whenever I made a promo or a syndicated bit, I never found any

See D'AMORE, page 49 ►

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# D'Amore Sounds Amazing

► D'AMORE, continued from page 48  
 sounders or stagers that really satisfied me. So I began making my own stuff."

Eventually, his pieces began to sell, and distribution deals followed soon after. D'Amore started with AME, and when AME was acquired by Premiere, the library grew into a collection which, by year's end, will consist of 28 discs.

D'Amore works with the Pro Tools system, but is now content to no longer ride the very leading edge of the technology. While Pro Tools is now up to its fourth version, he is finding the previous version more than powerful enough for his work.

To create sounds, D'Amore mixes the old with the new. In addition to sampling and processing real sounds (see sidebar story), he relies on modern and classic synthesizers.

"I have a K2000 from Kurzweil, four old Akai S-1000 samplers, some Korg equipment and a bunch of percussion things from Alesis and Roland. They're neat little toys to have around. I have a (Korg) DW-8000, which is low-tech and junky, but it is so electronic-sounding, it's like (he simulates the sound) *eeyahh-eeyahh!*"

D'Amore was quick to point out that the technology of recording should not exist for its own sake, but be used as a tool. The real creative instrument is the producer.

"Any of the guys who work here with me who are making sounds," D'Amore said, "... I am always beating them that the hard-disk recorder is a wonderful thing, but is the quick way out. You're not mixing paint on a hard disk; you have to get some good tone generators and you have to use a sampler. You want to be able to speed up, slow down, pitch-change and modulate things with a square wave.

"Use your creative skills. Find an old Casio CZ-101 (an inexpensive FM synthesizer) in the classifieds. Get started with that."

Great sounds can come from anywhere and at anytime. And like a fisherman with tales to tell, D'Amore once let a big one get away.

"I was watching TV one night, and the guy at the station console must have messed up," he said.

"All of a sudden, this massive burst of audio garbage came over the television. About eight seconds of data bursts and clipped audio — about 12 little pieces — an entire gold rush of sound, went right by my ears and I had no way to grab it." The incident obviously still annoys him.

D'Amore's point: There is no real formula for how or where to look for great sounds. "You just have to be tuned in to them. If someone is talking in a room, I will be listening to the room. I'll walk by an elevator, hear the 'ding' and make a note to come back later and record it. I'll sample a car trunk slam in a reverberant parking garage."

That hunger for bigger and better sounds, and the talent and equipment to manipulate them, are what will keep Brandon D'Amore and the crew busy for some time to come. And just may make your job a little more creative.

For information on the "Invasion" creative production library, contact AME/Premiere at (800) 467-9642 or circle Reader Service 31.

## Sharing the Secrets Of "The Machine"

Where do great production sounds come from? And how are they massaged to sound so wild? D'Amore happily shared production notes with RW on one of his favorite effects, "Welcome to the Machine."

At a fall festival carnival near his home, D'Amore became fascinated by the sound of a centrifugal-force ride called the "Washing Machine." He first recorded it from the outside with a DAT machine and an Audio-Technica MS stereo mic, but was dissatisfied with the result.

"I got up the guts to go on the ride and record it from the inside,"

D'Amore recalled. "You can get away with this in L.A.; they know you're doing some entertainment thing and not just weird."

The recording came out "kinda cool," as D'Amore put it. "I got the screams, the chains, the mechanical things all going *rak-kak-kak-kak.*"

Back in the studio, D'Amore transferred the sound to a Studer B67 tape recorder, then into Pro Tools, editing out the screams and cross-fading between mechanical elements. "Tape adds 'bubble gum' to the sound," said D'Amore, "so I did it to soften and goo it up. I've always loved that saturated sound. Then I put it into Pro Tools and cleaned up the sample."

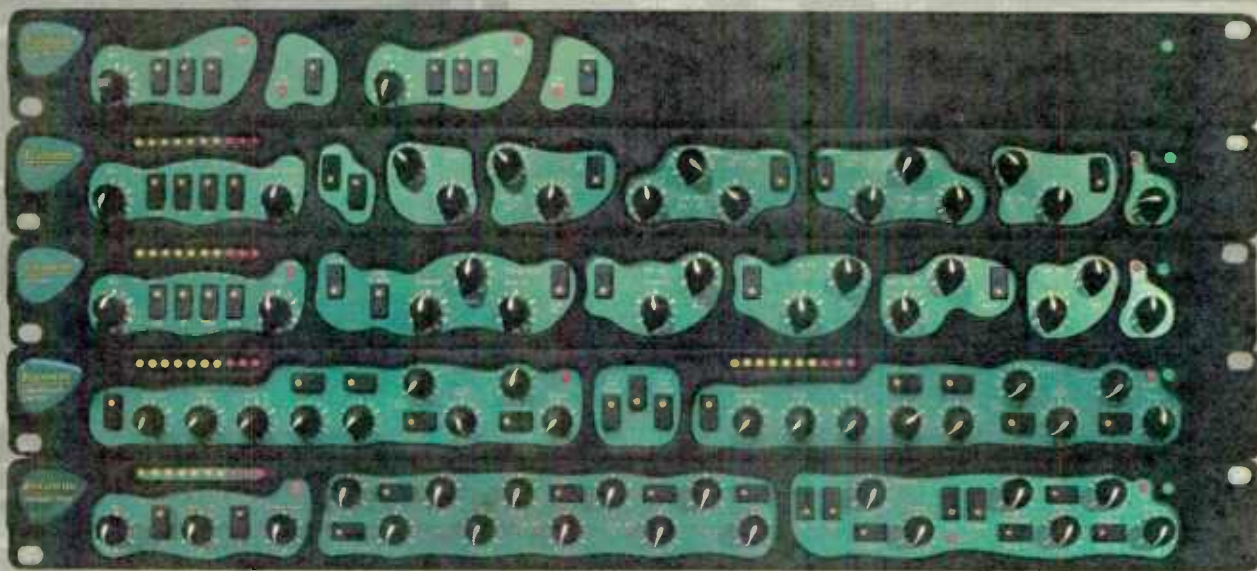
Once the sample was inside the Mac,

D'Amore triggered it with a keyboard, playing the sound chromatically (both white and black keys, ascending). The resulting sound of a large machine speeding up was then resampled as a mono file.

"It had a weird phasing quality," said D'Amore. "To fatten it up, I made a copy of it, put it next to the original and slid it by about eight SMPTE frames (approximately .25 sec.). It created a metallic, clanky stereo sound, like machinery from outer space." D'Amore then climaxed the effect with a sampled anvil strike and an orchestra "hit" to give it a music-like finality.

The finished effect is of huge, imposing machinery accelerating to an impossibly high speed, then slamming to a halt.

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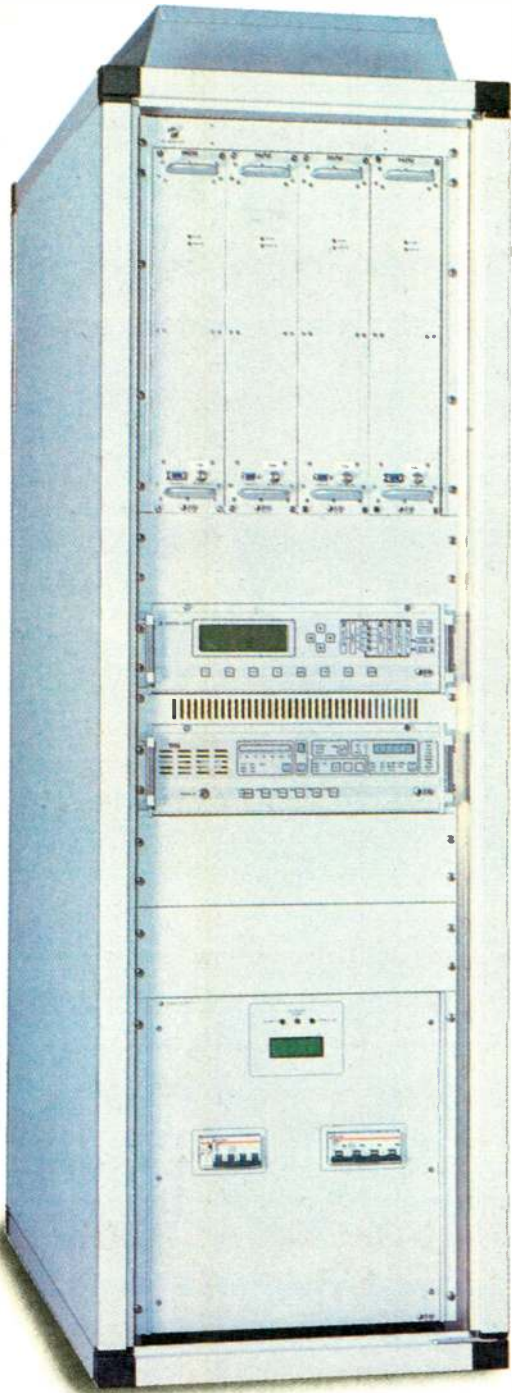


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DIGITAL DOMAIN

# Multiple Channels on One Cable

Mel Lambert

My last two columns on high-speed interface protocols resulted in more feedback than just about anything I have written about in recent months.

In light of this, I would like to briefly cover a new technology that recently came to my attention. Innovative Network Technology Labs Inc. (INT), is a new company based in Austin, Texas. It has developed a different solution to the problem of wide-bandwidth signal routing, switching and distribution.

**New twist**

Using standard twisted-pair, phone, data or audio cable for transmission without modulation, the new DistraPatch hardware will carry a 25 MHz bandwidth signal, including multiple analog or digitized audio channels.

Increased transmission capabilities are achieved without data compression of any kind, the company has claimed. Various modules can be used to carry program material from point A to point B, separated by as much as 2,500 feet. Modules can also be constructed into elaborate distribution and patching systems with I/O circuits optimized to the characteristics of the transmission medium.

Originally, DistraPatch was designed to distribute broadcast-quality video signals over almost any type of twisted-pair cable. This would allow existing telephone or similar wiring within a building to be used to build a new video facility or expand a current security, production or video-conferencing system.

During initial tests of the system topology in a series of real-world applications, INT reported that 24 channels of video or six channels of Ethernet 10 BaseT-compatible signals could be sent more than 1,000 feet over conventional two-conductor cable. By utilizing four-conductor Category 5 cable, these specifications were extended to 72 broadcast-quality video signals or 18 bi-directional Ethernet 10 BaseT channels.

**More development**

Currently under final development are additional components that will enable in excess of 1,500 channels of high-quality analog audio or 150 channels of 48 kHz, 20-bit audio signals to be sent over 1,000 feet of line. The latter is equivalent to 200 channels of 44.1 kHz, 16-bit CD-compatible data.

For four-wire systems, the numbers increase by a factor of three. This means

an astonishing 4,500 channels of analog audio or 450 channels of digitized signals.

This bandwidth capacity is said to be achieved using mediocre cable. Better wire will result in enhanced bandwidth, the company claims — an increase of as much as 60 percent in the number of available channels.

Perhaps more important, the DistraPatch technology is claimed to be extremely cost-effective. System prices are normally about 60 to 70 percent lower than fiber optic systems, and it is less expensive to maintain.

As a special bonus, INT describes the system as very secure.

Because the DistraPatch network is based on a highly proprietary protocol, lines are said to be virtually impossible to tap and decode. All told, it is a remarkable achievement.

As more data becomes available, I will update RW readers with news of additional broadcast applications, for both local-area digital audio networks and possible WAN topologies.

To get more information, contact INT Labs Inc., P.O. Box 340174, Austin, TX 78734. Phone (512) 266-8115, fax (512) 266-8116, or check the website at [www.intlabs.com](http://www.intlabs.com)

**So what's new?**

I have a few lines left, so let me provide details of some other interesting developments for the broadcast industry.

*Penny+Giles Mastering Suite:* The latest Pythagoras Audio Software package for the firm's Audio Multiprocessor provides a set of narrow-band compressors, parametric EQs, notch and high-pass filters, brickwall limiter, compressors and expanders, dither, Stereo Image Mixer and Azimuth Correction algorithms.

Usefully, the narrow-band compressors act only on a selected frequency band, unlike a multiband compressor that can seriously upset tonal balance by applying different compression on each band. The narrow-band compressors can also perform the role of adaptive EQ, operating only when a selected frequency reaches the critical level. For example, use it to remove bottom-end boom or to lift a voice-over above the mix.

*Dolby Laboratories* is now shipping Surround Encoder and Decoder TDM-compatible plug-ins for the Digidesign ProTools workstation. These plug-ins allow users to preview the result of 4:2:4 matrix encoding on discrete four-channel material (LCRS) destined for use on sur-

round-sound mixes.

Features include built-in panners, plus selectable mono, stereo and surround monitoring modes. As will be appreciated, Dolby-encoded stereo-FM broadcasts can produce a number of interesting effects ranging from phantom rear-channel reproduction to phantom-center announcer localization, dependent upon the degree of processing.

The only drawback of such audio gymnastics is that mono audiences may notice holes within the material. So it goes.

*The Waves Audio Transmission Processor (ATP) software package.* This said to provide flexible processing for

all types of audio transmissions using the Galim SSP 70A open-architecture hardware platform.

Coupled with ATP, the 70A offers Netcast encoding formats (RealAudio, Microsoft NetShow ASF, and VDOnet); maximum loudness and "ultramaximizer" limiting; automatic loudness control; multiband compression; multiband parametric EQ; and bass and stereo image enhancement.

Waves ATP 70 Series hardware can be expanded to provide simultaneous multiple outputs for delivery to on-air transmitters and Internet broadcast servers.

■ ■ ■

*Mel Lambert is principal of Media&Marketing, a Los Angeles-based consulting service for the professional audio industry. Reach him at [mediapr@earthlink.net](mailto:mediapr@earthlink.net)*

**Better wire results in enhanced bandwidth, the company claims — an increase of as much as 60 percent in available channels.**

## NAB Radio Board Candidates Speak

► BOARD, continued from page 8

**RW:** How do you feel that the NAB can balance the fact that its membership consists of more radio stations than television, yet the TV stations are generating more revenue?

**McELVEEN:** One way that can be balanced is by making sure that radio's representatives on the Executive Committee understand what the NAB is all about, how it works and can bring a strong voice to the radio side of what goes on in the NAB ...

This is not a time for radio to have leadership that will sit back and listen while the TV folks, with the many issues that they do have, are running the organization. This is a time for radio to step up and make sure that our interests are well-represented in the top levels of NAB.

**RW:** What would you say has been the

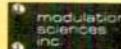
net effect of the Telecom Act in your market?

**McELVEEN:** So far, we've got three major players in the market and two of those are major, major players — Clear Channel and Benchmark, and then you've got Bloomington. I would say that what you're seeing happen in this market is we're having better radio, production, sales training — we're seeing radio being elevated to a higher level than it was at three or four years ago, before even duopoly began.

I think that, in time, the fact that we are producing a better product as a result of consolidation will lead to higher revenue in the market. I don't think it's necessarily because people are raising rates; I think it's because we are making advertisers more aware of the power of radio.

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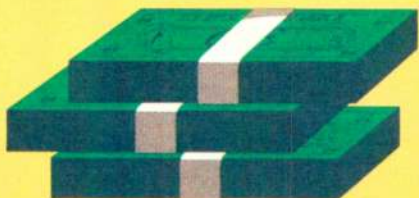
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READER SERVICE NO. 141

PRODUCT EVALUATION

# Sony Processor: Not a Car Radio

Lou Rizzo

The box for my next RW review arrived. A big box! Big boxes are good.

I tore open the big box and feverishly dug through the packing peanuts to find a much smaller box marked "Sony" containing ...

What is this, a car stereo?

After a moment of quiet confusion, I realized that Sony had indeed thrown itself into the processing game.

For a device that looks as if it could be your standard dashboard entertainment center, the Sony HR-MP5 Stereo Multi-Processor packs quite a surprise for its compact size. Sure, it looks like a high-end car stereo, but it delivers digital effects functions for just about any application. Its performance stands up to the pro favorites, with an adaptability and ease-of-use that suits the home studio.

Reverbs, compressors, space warps, flangers, distorters, delays ... they are all in there. One hundred presets include more than three dozen basic effects for mics, guitars and keyboards — including all the stock favorites radio guys can't live without and some really creative creations — plus room for 100 more custom programs with optional write protection.

The manual modestly reports that you can layer two effects, but in reality it gives you up to four chained effects, as each layer carries its own stereo EQ bank.

Plugging in was standard. The Sony HR-MP5 is powered by 9 VDC and comes with an AC adapter. The unit is fed by can't-live-without-them -10 dB quarter-inch stereo analog jacks (L channel mono in) and performs A/D conversion with 1-bit, 64x oversampling.

And of course it has the can't-live-without-it MIDI interface. Once it's plugged in, you can configure the entire operating environment — everything from date/time to pedal triggers, MIDI routes and tuning.

I really like the individual L and R level trim pots on the face of the unit. The headphone jack and volume pot are also nice accessories.

About the only thing Sony bobbed was the manual. The English, French and German versions are printed simultaneously in columns along the page. Perhaps they were anticipating that upcoming session you booked with Jean-Luc Ponty and Klaus Voorman.

In addition, the instructional text really needs to be more descriptive. I fought with the manual to find my way into the HR-MP5, but once in I breezed around easily without it.

The shuttle/jog wheel to the right of the face scrolls through programs and parameters alike, which automatically kick in when on-screen. The .75 x 3.5-inch full-dot display screen writes individual commands and parameters over six Function buttons labeled A through F.

Touch the corresponding function button beneath, and the screen opens a whole new page of commands and parameters within. The last page of parameters even gives you a "CMPR" prompt to compare your settings to the original preset, once altered. You should never get lost with page numbers in the upper right of the display. Touching the Exit button gets you back to the program's Title page.

Although the HR-MP5 does not let you

build a program from the ground up, it has enough parameters within a program to allow you to change it into something completely different. You will save time by choosing a similar preset effect and modifying its parameters.

I chose a frequently used radio production effect — Reverb — and set about the task of writing myself a custom program. I scrolled with the shuttle/jog wheel trying out the various reverb presets and settled on a lively plate-type effect.



The Sony HR-MP5 Stereo Multi-Processor

The title page has a masthead of "P005 Platinum XL," along with a graphic of a head singing into a mic. Listed along the bottom of the screen are the two (actually four) levels of effect: "EFCT 1 EQ TpDLY EFCT2 EQ PLATE." These legends are positioned above corresponding function buttons.

Touching a related function button opened up the individual parameters. I found the program to be quite complex: EQ was two-band, pre or post (four bands are available); TpDLY was a "tapped reverb" effect including 12 delays times; ROOM had eight early reflections, four cross-reflections, and 16 other parameters.

Now you are relieved you didn't burn the manual. It outlines the pages, function buttons, parameter names and variable ranges for each effect.

When you touch a function button, the

corresponding parameter becomes highlighted. You can use either the Up or Down arrows displayed over other function buttons or the shuttle/jog wheel to change the variables.

I patched in a and wrote a radio-friendly voice-over style of reverb. I opened up the delays for a little more slap, reduced the size of the virtual room, toned down the liveliness by reducing the spread, tamed the noise by reducing the "Rotate Hi" parameter and even played with the various early reflection parameters.

Aside from the highs sounding a little scratchy (which I couldn't seem to fix), the MP5 could have delivered just about any kind of reverb imaginable. I could have even traded the delay in my first effect layer for a flanger, doubler, compressor or whatever.

When finished, I hit "Save" and the MP5 defaulted to U001 — the first of 100 user program locations — and walked me through the titling sequence. Then I was able to scroll through the program bank without having to page back to the original title page.

Simple in operation while complex in function, the MP5 exceeds expectations with enough range and depth to satisfy most any production demand.

With a more sturdy shuttle/jog wheel, balanced I/O option and rack-mountability, the MP5 could be a great box for the radio production room and the project studio. In the home-based studio, it makes a great bridge from stomp-box chains to complex and expensive pro rack units.



Voices, guitars, keyboards ... the MP5 does it all. And at a list price of \$595, it delivers a lot for the money.

■■■

In another life, Lou Rizzo was regional



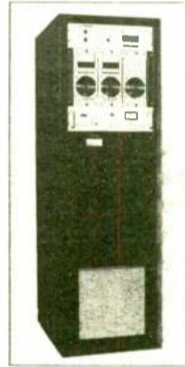
Product Capsule:  
Sony HR-MP5 Multiprocessor

	<b>Thumbs Up</b>		<b>Thumbs Down</b>
✓ Compact size		✓ Fragile shuttle/jog wheel	
✓ Mult-layered effects		✓ Awkward manual	
✓ Expansive parameters		✓ No rack mount	

For more information call Sony Electronics at (201) 930-1000, or circle **Reader Service 8**

program director for Commodore Media in Connecticut. He then converted to "the Dark Side" and became the local pop promotion representative for Atlantic Records, based in Pittsburgh.

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## PRODUCT EVALUATION

# New SAW Mighty 32-bit Teeth

**Bruce Bartlett  
with Jenny Bartlett**

Progress marches on. Now available from Innovative Quality Software is SAW Plus32, the latest version of the popular IQS editor, Software Audio Workshop Plus. Amazingly, SAW Plus32 can play up to 24 mono or stereo tracks of digital audio in real time.

The previous version, SAW Plus3.3, could play up to 16 stereo tracks. SAW Plus32 looks and acts like SAW Plus3.3 but is a 32-bit upgrade that permits more tracks and multiple soundcards.

How would a radio station possibly use 24 tracks when production people often find eight tracks to be more than enough? Look at the advantages: News people can fill tracks with content to be used a few tracks at a time.

For example, record elements for an entire morning's worth of newscasts on tracks 1 through 12. In the afternoon, late-breaking news material can be added on tracks 13 through 19, muting earlier tracks that no longer apply.

And yes, production can always use those extra tracks for multiple tags, inserts and even multilingual versions of commercial recordings. Who has never wished for just *one* more track?

## Talking money

SAW Plus32 is easy to use and powerful. The price is \$999 list, but IQS is fond of doing special price breaks, and at this writing, SAW Plus32 was on sale for \$649. The program is full of convenient features such as level changes, mute, solo

and panning. In real time, the program can convert sample rates and different soundfile formats.

SAW Plus32 has real-time graphic EQ, echo, noise gate, compressor/limiter, polarity invert, reverse, looping and pitch shifting. It does all this with any Windows-compatible soundcard. Extra plug-ins are available, such as reverberation.



The SAW Plus32 Screen

Each screen is uncluttered and colorful. The faders and buttons are shaded artfully. Most buttons are text rather than icons, so you never forget what they do.

SAW Plus32 has several windows:

The Recording Control Panel sets the sampling rate and levels, then initiates recording. You can change the level of a digital input signal in real time. The 120-step level meters have realistic action.

The Remote Transport Window is where you find the transport controls for Stop, Play, Mark, Loop and much more.

The Full View Window shows the entire soundfile at a glance. You can skip instantly to any part by clicking on it.

The Soundfile View shows the waveform of the sound you recorded. This screen is where you mark *regions*, or sections of sound that you want to keep. You can also delete unwanted sounds, cut and paste, and undo edits.

The Region View is a list of the regions you defined. The Multitrack View shows all tracks and their contents. You can place regions from a list into tracks, or record directly to the multitrack screen. When you click on the fader icon for each track, a pan pot and fader pop up. You can set the level at any point in a track, and fade from one level to another. It is easy to do and works well.

The Sequence View shows the ordered list of regions in any one track, along with their times and lengths.

Displays keep you updated on timing information. As in previous versions of SAW, level and pan changes show up as curved lines within each track.

SAW Plus32 offers many improvements over SAW Plus3.3. If you run Windows NT, the new program enhances MIDI and SMPTE synchronization, disk handling and cursor position updates (thanks to priority threading and multithreading). There are fewer hard-disk head seeks in each multitrack loop.

The larger wave buffer size requires less interrupts per second. All of this translates to more speed for you.

The program has been expanded to 24 tracks of mono or stereo data. Up to 48 tracks play in real time on a high-performance computer (see "Minimum Requirements"). With Windows NT, SAW Plus32 can handle up to eight stereo soundcards for up to 16 physical channels in and out.

Fader volume resolution has been increased to 0.25 dB steps. Each change in a mix is now ramped according to a Slope Setting. This gives better than .001 dB resolution of mix changes and smoother fades.

## More goodies

Other enhancements are these:

- Thanks to Windows95, you can use long file names.
- Zero-crossings of the waveform are detected more accurately, meaning click-less edits.
- The "=" key instantly centers the cursor position.
- Variable pitch resolution has been increased to .01 percent.
- The Edit Decision List now stores all the effects settings too.
- The program now supports the Antex Studio Card SMPTE Generator.

I was surprised to see that session archiving has been removed. Time was, you could save an entire session to a DAT and a diskette. IQS says that an audio DAT recorder is no longer practical to store all the tracks and features. Instead, they recommend backing up to data tape, removable drives or CD-ROM.

IQS also removed the ChaseLock Resolve and Observe options because newer soundcards outperform the SAW

Plus software emulation. The newest cards lock to Longitudinal Time Code (LTC), Vertical Interval Time Code (VITC), WordClock, Video Sync and so on.

## Performance notes

Using a Pentium 166 with 16 MB RAM, Windows 95 and a Western Digital hard drive, I was able to play up to 11 stereo tracks at once without EQ added. For best performance, you need Windows NT and at least 64 MB RAM. IQS says that SAW Plus32 really is no faster than SAW Plus3.3 when used with Windows 95.

I liked the many convenient features. For example, double-clicking a region in a track expands it into a large waveform for editing. Each function key can be programmed to bring up a different view of your choice. Changing from a soundfile view to a multitrack view is a key-tap away.

Editing and region-defining are so well done, it is hard to imagine a better way. You accomplish most work with mouse clicks and keyboard shortcuts.

Thanks to 32-bit assembly language coding, SAW Plus32 is one fast program. Zooms and waveform redraws are nearly instantaneous, as is the signal processing. All operations are intuitive and well thought-out.

The manual is first-rate. It is organized, easy to read and thorough. Although it lacks an index, the manual offers a tutorial and tips on applications, optimizing performance and using Help

## Product Capsule:

### IQS SAW Plus 32



**Thumbs Up**

- ✓ 24 tracks, up to eight soundcards
- ✓ Fast and powerful
- ✓ Convenient features
- ✓ Beautiful interface

**Thumbs Down**

- ✓ Requires a fast system, ideally NT
- ✓ No index in manual

For more information, call Innovative Quality Software at (702) 435-9077, or circle Reader

Service 173

resources. You have all the tech support you need, and free software updates are available from the IQS BBS.

A possible drawback for radio production is the lack of time compression, but updates are always in the works. A little pitch shifting can bring a 32-second spot down to 30 seconds.

The automated mixer remembers all your settings. Thanks to non-destructive editing, you can redo almost any change. Did a sound effect come in late? Drag it to the left to make it occur earlier. Does the voice-over sound too tubby? Select Graphic EQ and pull down the 100 Hz knob. Want to play audio tracks along with MIDI sequences? SAW Plus32 will sync or trigger to MIDI and SMPTE.

All functions work smoothly and sound terrific. SAW Plus32 just seems to do everything the way it should be done. It is quite an efficient, elegant piece of work.

Check with the company for current prices and upgrade information. IQS is at 4680 S. Eastern Ave., Suite D, Las Vegas, NV 89119. Call them at (702) 435-9077 or visit the company website at [www.iqsoft.com](http://www.iqsoft.com)

■ ■ ■

Bruce Bartlett is a mic engineer, writer and recording engineer, and the author of "Practical Recording Techniques," published by Butterworth-Heinemann. Jenny Bartlett is a technical writer. Reach Bruce at (219) 294-8388.

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## Hard Disk Math Test

SAW products come with a hard drive test program to ascertain the performance of your drive and determine the number of tracks your system can handle.

This is a good thing; trying to calculate this by yourself might have you reaching for an aspirin bottle in short order.

Out of curiosity, I ran the Norton SysInfo hard disk test utility on my computer here at RW. The analysis: My simple IDE drive has an 8.16 ms average seek time (not too shabby) and a transfer rate of 1,042.5 kbytes/sec, or roughly 1 MB per second.

Now here is where the math gets interesting. At top speed, the drive can shuffle about 62 MB per minute. If I have a clean 1 GB drive, does this mean I have enough storage for only 16 minutes of audio (1 billion ÷ 62 million)?

But wait; can't that same drive store a 44.1 kHz sample almost 378 minutes long (1 billion ÷ (44,100 x 60))? Which is it?

And how come a one-minute stereo 44.1 kHz WAV file eats up 10 MB? Why isn't it 2.646 MB (44,100 x 60)? Adding to the confusion, how many tracks will my drive do? At 1,042.5 kbytes/sec, I should be able to run nearly 23 tracks of 44.1 kHz audio (1,042.5 kbyte (44.1 kHz), right?

No such luck. About five stereo tracks with no EQ is the best I can do on this platter, and that's on a cool evening with no breeze.

What's going on here??

### Coming clean

Okay, we admit it. The math and the wording were manipulated deliberately to become one of those annoying "two-trains-leave-Chicago-at-noon" problems.

You needn't write us disputing these calculations; we know they are bogus. But do you see how easy it is to get an incorrect figure when calculating track numbers and storage space?

For the record, a one-minute 44.1 kHz file eats 10 MB because a 16-bit sample consists of *two* bytes per sample. Double that amount for a stereo file. So: 44,100 x 2 x 2 x 60 = 10,584,000, or pretty much 10 MB per minute for stereo files.

So that means our completely empty one-gigger can handle approximately 90 minutes of storage. Remember, fragmented disks, slow processors and even twiddling with the mouse will affect performance on a marginal computer.

If you are not planning on burning a CD and do not need 44.1 kHz, cut the sample rate down to 32 kHz. Your work will still sound good on FM radio, and that one-gigger picks up another half-hour of storage.

Skip the calculator and let SAW's built-in performance tester check everything out. It is already paid for, and besides, you have other fires around the station to put out.

— Alan R. Peterson

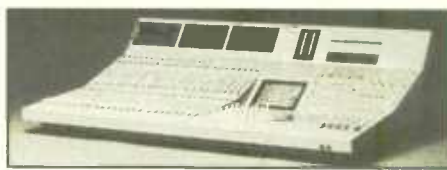
### SHORT TAKE

## Long-awaited Digital Audio Console

At the NAB convention in Las Vegas two months ago, Tascam introduced its new Digital Mixer to the production world.

The new console does not yet have a suggested price, but the features included in the Digital Mixer should make it a serious consideration for radio producers ready to make the move to an all-digital studio.

The basic configuration is 40 mono inputs and six stereo inputs, each with its own fader and assignable to any of eight busses, stereo mix or direct to digital tape. A variety of digital inputs — TDIF, S/PDIF and AES/EBU — are provided



on the Digital Mixer, and the Tascam transport controller supports MIDI machine control, Sony P2 and Tascam sync I/O.

Sixteen high-quality analog inputs are switchable between XLR mic preamps or balanced TRS line inputs. A full 99-scene snapshot automation system recalls mix data, and eight internal digital dynamics

processors take control over compression, gating and expansion.

A standard-equipment, 24-channel meter bridge monitors Send and Return levels, channel inputs and overall stereo mix. The "control pod" feature below the LCD screen includes 20 soft rotary encoders and 32 soft switch controllers, which change function as each system screen is navigated.

For information and availability of the Tascam Digital Mixer, contact Tascam in California at (213) 726-0303 or circle Reader Service 197.

— Alan R. Peterson

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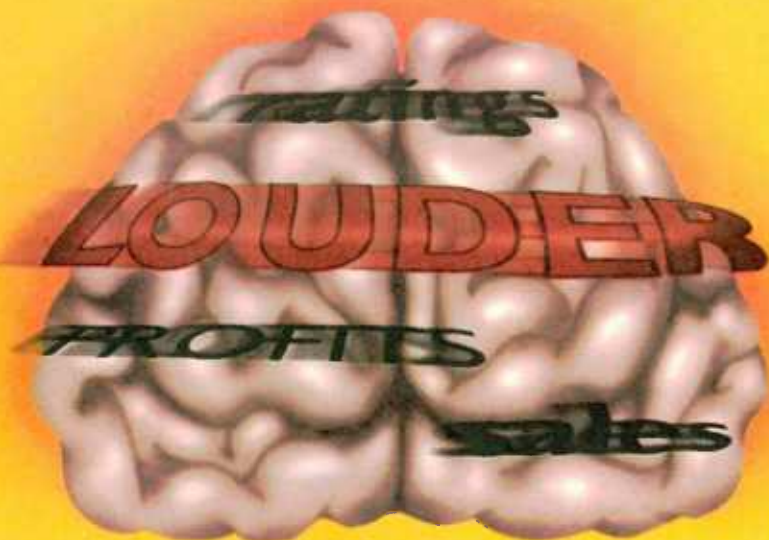
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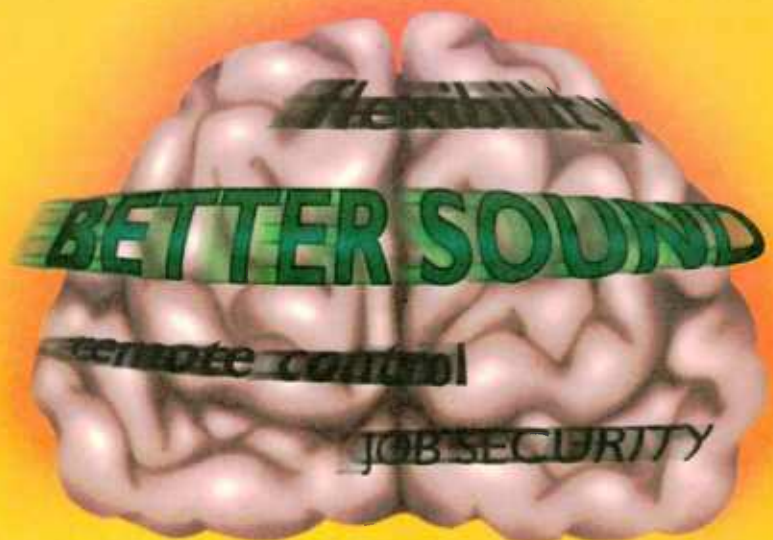
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**Peavey PV1.3K**, excel cond w/warranty, 1300 W into 8 ohms, \$500. T Santorelli, SPEC, 684 Sunrise Hwy, W Babylon NY 11704. 516-661-2454.

**Peavy CS800**, as is, \$200. J Price, Price Studio, TX. 214-321-6576.

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**Dolby 361 type-A NR**, w/road case, \$625; Optimus SCT-50 CD player/cassette recorder, excel cond, \$300. R Streicher, Pacific Audio-Visual Enter, 545 Cloverleaf Way, Monrovia CA 91016. 818-359-8012.

**Fostex 3180 stereo reverb** unit w/24 mS pre-delay rack mountable, vgc, will swap for a UREI Cooper Time Cube. E O'Brien, Imperial Sound Std, 383 N Studio St, Terre Haute IN 47803. 812-877-2663.

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**Autogram AC-8** stereo console, 32 inputs, 8 faders, mint cond, \$3200. K Orchard, 16435 Wimbleton Dr, Victorville CA 92392. 760-243-4733.

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**Ramko DC-5RA** 5 chnl console, mono, 10 inputs capacity, \$325. Allan, WSPN Radio, 955 Main St #617, Bridgeport CT 06601. 203-368-2253.

**Spirit Live 4** mixing console, 12x4x2, \$1250; Mackie 1604 mixer w/expander, near new cond, \$700. R Streicher, Pacific Audio-Visual Enter, 545 Cloverleaf Way, Monrovia CA 91016. 818-359-8012.

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**Collins** 8 pot board, \$300. W Osenga, Pace Bldg, POB 1369, Canton NC 28719. 704-648-3586.

**McMartin** stereo console, 8 chnl mixer w/18 inputs, excel cond, \$1200. R Ritchey, Phagan Oliver Pro, 611 Broadway, San Antonio TX 78215. 210-680-0933.

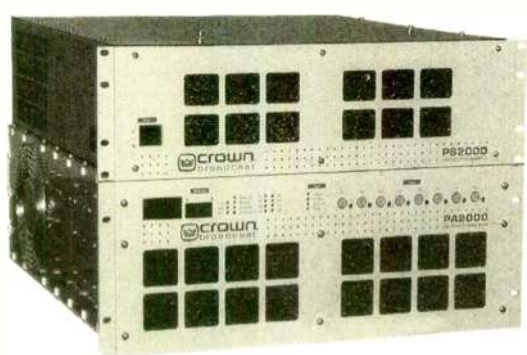
**Radio Shack SSM-1000** mixer board, 1 mic input, 4 stereo chnl w/2 inputs ea, all RCA; 7 band EQ for right & left, output switchable from 0 dB to +6 dB, \$125. B Dixon, WAWC, 10129 N 800 East, Syracuse IN 46567. 219-457-8181.

**Soundcraft 600** 32x16 w/patchbay, mint, \$4950; Tascam 512 12x8 mixer, \$750; Tascam 520 20x8x16 mixer, \$1750; Tascam 30 8x4, \$450; Allen & Heath Syncon 28x24, great sounding, \$5000. W Gunn, Box 2902, Palm Springs CA 92262. 619-320-9728.

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**Behringer Mastercom MDX4000** stereo dual band compressor w/AGC, 5 mos

old, packaging & manuals, \$400. C Marion, JCR Prod, 3911 Glendale St, Phil PA 19124. 215-289-8295.

#### Want to Buy

**Teletronix LA-2A's**, UREI LA-3A's & LA-4's, Fairchild 660's & 670's, any Pultec EQ's & any other old tube compressor/limiters, call after 3PM CST, 972-271-7625.

### MICROPHONES

#### Want to Sell

**Countryman TVH** tie-clip mic, \$165; AKG D-140 dynamic cardioid mics (3), \$115 ea; Schoeps Collette cable KC5L w/Lemo connector & adaptor, like new cond, \$335. R Streicher, Pacific Audio-Visual Enter, 545 Cloverleaf Way, Monrovia CA 91016. 818-359-8012.

**HME-WM 252** wireless w/SM58 mic xmtr, \$125; Telex xmtr & mic WT-200, \$150; Telex xmtr & mic WT-50, \$150. J Price, Price Studio, TX. 214-321-6576.

**Sennheiser MD-421U** (5) dynamic cardioid studio mics in excel cond, \$250 ea. H Frost, WBEC, 211 Jason St, Pittsfield MA 01201. 413-499-3333.

**Shure PS1** (2) condenser mic pwr supply, \$100 ea; AKG N62E condenser mic pwr supply for 2 mics, \$150/firm; HME wireless 2100 mics (3)

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& (4) wireless mic diversity antenna system in fair cond, \$300/all. P Paquin, Sound Dynamics Assoc, POB 278, Dennisport MA 02639. 508-760-5882.

**AKG D-25** w/suspension hanger, new cond in original box, \$125; RCA BK-5 w/shock mount, stand mount & wind-screen, excel cond, \$125; Sony ECM-30 lavaliers w/pwr supply. J Dalton, Dalton Snd, 3374 NE 19 Ave, Ft Land FL 33306. 954-564-0014.

**RCA 77DX, BK1A**, \$395; vintage PA mics, Shure 51 Elvis, \$75, EV731, \$95, EV 630 or 635, \$75, RCA mini 77" shaped, \$295. W Gunn, Box 2902, Palm Springs CA 92262. 619-320-0728.

**Mic's with slags** (call letters), slags, on-air lights, clocks with call letters & other interesting old mics, etc. 1-800-727-2369.

**Neumann, Sennheiser, AKG**, many models. W Gunn, Box 2902, Palm Springs CA 92262. 619-320-0728.

**RCA 77-DX's & 44-BX's**, any other RCA ribbon mics, on-air lights, call after 3PM CST, 972-271-7625.

**RCA 77-DX's, 44-BX's, WE KU-3A's** On-Air lights, recording lights. Top price paid. Fast response. Bill Bryant Mgmt, 2601 Hillsboro Rd, G12, Nashville TN 37212. 615-269-6131, FAX: 615-292-3434.

**B/W Johnson Cardwell**-National roller inductors, counter dials, vacuum/air capacitors, Barker-Williamson 5-band output coils, + other parts; General Radio Variac, heavy duty, 115 V & 230 V, pwr supplies, 3000-4000 V at 1A. F Yonker, Penn State Univ, 1229 Inverary Pl, State College PA 16801. 814-867-1400.

**Macrotel MT-16H** telephone system w/KSU unit pre-wired to punch block, Macrotel electr key telephone w/LCD display, (8) addtl extensions, loaded w/state-of-the-art features, \$1150. D Jackson, WMEX, 19 Boas Ln, Wilton CT 06897. 203-762-9425.

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**Philips 567** biamplified motion feedback, 3 way speaker system w/built-in pwr amps, 22x13x11, 60 W ea, \$500/pr ship/ins. S Lawson, KAK Prod, 928 Hyland Dr, Santa Rosa CA 95404. 707-528-4055.

**McIntosh MAC-1900** receiver, perfect, Victor 212-353-9320.

#### Want to Buy

**Magnabett, Dictabett, Memovox** machines, any cond, any info appreciated. R Norton, 527 Great Falls St, Falls Church VA 22046. 703-536-5329.

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**Ampex 440c** pro tape machines (4), 2 trk, 10.5" reel, 1.5-15 ips, vgc, \$800 ea; Ampex 440c transport only, 4 trk, 10.5" reel, 7.5-15 ips, vgc, \$400; Ampex 440c VariSpeed

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Sony TC-388-4 stereo, 3 head, 4 chnl, 7.5 & 3.75 speed, excel cond, \$165. J Dalton, Felton Snd, 3374 NE 19 Ave, Ft Land FL 33306. 954-564-0014.

Otari 5050B III 2 trk r-r, like new; Panasonic 3900 DAT w/remote controller. J James, Marin Voice Std, POB 1641, Sausalito CA 94966. 415-331-9346.

Otari MX5050 BII, w/floor stand, never used, excel cond, \$2600. C Singleton, WFUV, Forham Univ, Bronx NY 10458. 718-817-4560.

**Panasonic AG6500** (2) edit/rcdrs, AGA650 cntrlr, \$2000; Tascam DA 30, digital audio tape, \$600. Cozmic, 716-527-8642.

**Pioneer RT-701** 2 speed rack mountable r-r tape deck, as new cond, \$350 +shpg. E O'Brien, Imperial Sound Std, 383 N Studio St, Terre Haute IN 47803. 812-877-2663.

**Revox PR99** PB reel decks, (2) 3.75 ips, (1) 7.5 ips, FT stereo, \$495 ea. D Blackwell, WQHL, 1305 Helvenston St, Live Oak FL 32060. 904-362-1250.

**Roberts** mono portable recorder, tube type, similar to the Ampex 600 series, \$200; Akai M7 portable recorder, stereo, cross-field heads, \$150/BO. M Crosby, 422 Avenida Abetos, San Jose CA 95123. 408-363-1646.

**MX70** video playback system, \$900; Gd used "x2500" 456 tape; 20, 1"x2500" 996 & 250, \$35; new MRL short test tapes, \$229 for 2", save \$400. Save on all other formats too. W Gunn, Box 2902, Palm Springs CA 92262. 619-320-0728.

**New & used Ampex 350** style tape transports, motors & parts, various prices. M Crosby, 408-363-1646.

**Tascam ATR60-2**, in stand, \$1200; Tascam 58, 8 trk, \$1950; Tascam 38 8 trk, \$1650; Otari 5050-8 Mk III, \$1900; Ampex 1200 PURC cards (5), \$125 ea; Custom locator for any deck, \$495; Sony 2 trks, \$195 ea. W Gunn, Box 2902, Palm Springs CA 92262. 619-320-9728.

**Want to Buy**

**Altec 13401** tray, tray & female receptacle for Altec 458A, 459A OK, 9475A pre-amps; manual or copy for Ampex 440C-4. F Hall, NE Recording, 17 Canna Dr, Shrewsbury MA 01545. 508-753-1335.

**Ampex ATR100** tape

recorders for parts. Circuit cards, heads, motors, machine parts, or electronic parts. Call 818-907-5161.

**Ampex machines**, recorder electronics, mixers. W Gunn, Box 2902, Palm Springs CA 92262. 619-320-0728.

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Otari **MTR10-2**, \$2000; MCI JH110B in console, \$1500; MCI JH110 in console, \$1500; Ampex 354-2 tube rcdr, \$1250; Ampex 440, in console, excel cond, \$995; Ampex 300 tube rcdr, \$1950; Ampex 350 tube rcdr, \$1250. J Price, Price Studio, TX. 214-321-6576.

**Revox B77 MKII** 2 trk, 7.5 & 15, stereo/mono, gd cond, \$500. D Noe, KNID, 316 E Willow, Enid OK 73701. 405-237-1390.

**Tascam MSR-16** 16 trk \_ w/dbx, RC-416 full reels, lw hrs, mint, original boxes & packing, 3 reels new Ampex 456 tape, \$3500. D Sieb, Harvest Prod, 82907 Hillpoint Rd, Cross Plains WI 53528. 608-798-2223.

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Kin-Tel 202-B microvolt meter, DC, 0.3 mV to 1000 V, tube type, meter mirror scale, zero ctr; WE Hickok KS15750-L1 3 meter tube tester, deluxe serial 761, navy gray, aluminum case, 1963 tube chart, mint cond. F Yonker, Penn State Univ, 1229 Inverary Pl, State College PA 16801. 814-867-1400.

Tektronix DM502A digital multimeter auto range, \$195; Tektronix DM501A digital multimeter, \$195; HW dist analyzer 33A, \$395; HW 353 patch panel 110 DB attenuator, \$75; Ithaco 4302 dual 24 DB/octave hi-lo pass filter 1/10-1 MHz, \$195; Weston 666 multimeter, \$50; Eico 150 solid state signal tracer, \$100; Heath audio gen 1G-72, \$100. J Price, Price Studio, TX. 214-321-6576.

General Radio 1865 digital impedance meter w/go/no go setup w/manual, some ranges not working, BO. M Crosby, 422 Avenida Abetos, San Jose CA 95123. 408-363-1646.

Kin-Tel 202-B microvolt meter, DC, 0.3 mV to 1000 V, tube type, meter mirror scale, zero center; WE Hickok KS 15750-L1 3 meter tube tester, navy gray, aluminum case, 1963 tube chart, mint cond. F Yonker, Penn State Univ, 1229 Inverary Pl, State College PA 16801. 814-867-1400.

Singer SSB-50 NRSC type spectrum analyzer w/TTG3 two-tone gen, RF8 tuning unit, RFC2 freq extender, HP3200B VHF oscillator, gd working cond, 10 Hz resolution, usable to 500 MHz, \$1500. T Walker, WMVA, POB 3831, Martinsville VA 24115. 540-632-2152.

Tektronix 7633 100 MHz dual trace oscilloscope, gd cond, storage options, \$500. R Lindahl, Lindahl Studios, 10680 SW Wedgewood, Portland OR 97225. 503-644-9643.

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3CX15,000A7	4CX15,000A	SV572-30
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**Collins 828E-1, 5 kW AM** in service on 1430 at original station, power rock mdl

w/only 2 tubes, \$12,500. B Barry, WAMB, 1617 Lebanon Rd, Nashville TN 37210. 615-889-1960.

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Circle (226) On Reader Service Card

## ACTION-GRAM

### EQUIPMENT LISTINGS

Radio World's Broadcast Equipment Exchange provides a FREE listing service for radio stations and recording studios only. All other end users will be charged. Simply send your listings to us, following the example below. Please indicate in which category you would like your listing to appear. Mail your listings to the address below. Thank you.

Please print and include all information:

Contact Name \_\_\_\_\_  
Title \_\_\_\_\_  
Company/Station \_\_\_\_\_  
Address \_\_\_\_\_  
City/State \_\_\_\_\_  
Zip Code \_\_\_\_\_  
Telephone \_\_\_\_\_

I would like to receive or continue receiving Radio World FREE each month.  Yes  No

Signature \_\_\_\_\_ Date \_\_\_\_\_  
Please check only one entry for each category:

#### I. Type of Firm

- 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

Brokers, dealers, manufacturers and other organizations who are not legitimate end users can participate in the Broadcast Equipment Exchange on a paid basis. Line ad listings & display advertising are available on a per word or per inch basis.

WTS  WTB  Category: \_\_\_\_\_  
Make: \_\_\_\_\_ Model: \_\_\_\_\_  
Brief Description: \_\_\_\_\_  
Price: \_\_\_\_\_

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Make: \_\_\_\_\_ Model: \_\_\_\_\_  
Brief Description: \_\_\_\_\_  
Price: \_\_\_\_\_

\*Closing for listings is every other Friday for the next month's issue. All listings are run for 2 issues unless pressed for space or otherwise notified by listee.  
**Broadcast Equipment Exchange**  
PO BOX 1214, Falls Church, VA 22041 • Tel: 800-336-3045 • Fax: 703-998-2966

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## EMPLOYMENT

### HELP WANTED

**Engineer:** Flexible hours, competitive wages for F/T person who can maintain radio broadcast equipment and computers. Must have electronics, electrical and RF knowledge, along with minor building maintenance skills. Radio experience an advantage. Call Signal Media at 501-664-9410 or fax 501-664-5871. EOE.

**ASSISTANT CHIEF ENGINEER** with contract engineering firm. AM/AM-DA/FM/LPTV clients on Central California Coast. 2 yrs broadcast experience and technical degree or equivalent required. Resume to: Interstellar Communications, POB 13057, San Luis Obispo CA 93406. FAX: 805-543-3298 or e-mail: wbordeau@slonet.org

**WXRT/WSCR is seeking a Staff Engineer** to enhance our engineering department. Ideal candidate must have 3-5 years experience in broadcast/production engineering; high power AM/FM transmitter experience preferred; advanced computer/trouble shooting skills of Novell Netware, MSDOS/Windows 3.1/95 & CAD systems; basic skills in electrical, HVAC, carpentry & plumbing. Please send resume to: John Freberg/Dir of Engineering,

**WXRT/WSCR, 4949 West Belmont Avenue, Chicago IL 60641.** No phone calls please. WXRT/WSCR is an equal opportunity employer.

### PRODUCTION DIRECTOR

Immediate opening for a Production Director at the ever-growing Paxson Communications of Orlando. Two years radio production experience required. Must have background in analog and digital multi-track editing, write concise, creative copy that sells, and be able to work fast to meet deadlines. A professional attitude coupled with excellent organizational, detail and interpersonal skills are important.

*Candidates who meet these requirements should send a tape and resume to:*

**Dave Green**  
Paxson Communications  
2500 Maitland Center Parkway - Suite 401  
Maitland, FL 32751  
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**Looking in Texas, bdct** school graduate +3 yrs exper

on-air, production, interview, call-in, give-aways seeks similar position. Dale, 405-943-7971.

**Recent broadcasting graduate** looking for opportunity to begin in the industry, on-air exper in NAC format, willing to relocate. Dave, 405-799-4709.

**SBE certified technologist,** associate engineer will work for experience in the Fairfield county or surrounding areas, extensive experience in digital audio editing & recording. Pete, 203-371-7162.

**Young at heart, energetic** graduate of bdctg school trained in announcing, CA prod, news reporting & copywriting seeks position w/Oldies, R&R or Classic Rock station in need of my talent, will travel. Mark, 405-787-2134.

**20 yr pro** looking to program your station & take it to next level, solid principles, hard working, exper in all phases of business. Roger 423-235-6889.

**35 yr radio veteran** would like to represent your company at trade shows or seminars as a speaker, presently working. 414-262-1856.

**Broadcasting grad** looking to rock the world at your station with my new fresh sound. Bryan, 316-624-6363.

**CE position wanted, 10 yr** job lost to sale, exper w/computers, xmtrs, automations, DCS, UDS, digital studios, great references. Robert King, 801-334-8315.

**CE seeks AM/FM station,** exper in HP dir, studio & Tx, all areas considered, fast relocation. 919-514-0518.

**From DJ to sales to mgmt** to owner, ready for new challenge, I know radio! Call Al Anthony your next mgr. 1-800-779-4737.

**Interactive Mix DJ** avail for

re-mixes, custom taped mixes & live mix show(s), 8 yrs club/mobile DJ & radio/prod exper, talented, hard working & many great ideas for spring/summer promos & live remotes for sales. Dave, 800-601-0398.

**Many yrs of bdctg exper** sales/services, teaching/training expert, elect engr, audio, video, RF, english or french. R Quesnel, 8923 Cambridge #2604, Kansas City MO 64138.

**Recent bdctg school grad,**

Dave "Beck" Harrison, seeking that first taste of bdctg, will relocate. 405-386-2034.

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**GET RESULTS FAST!** Increase your exposure with **Mediacasting' Talent Pool!** For only \$25.95 your aircheck will be posted on line. To be heard on the Internet send tapes and resume to: POB 1736, Fond du Lac WI 54936-1736. (414) 926-9620 or [www.mediacasting.com](http://www.mediacasting.com)

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This listing is provided for the convenience of our readers. Radio World assumes no liability for inaccuracy.

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**HELP WANTED:** Any company or station can run "Help Wanted" ads for \$2/word or buy a display box for \$69/column inch. Payment must accompany insert, use your MasterCard or VISA; there will be no invoicing. Blind box numbers will be provided at an extra charge of \$15. Responses will be forwarded to listee, unopened, upon receipt. Call 703-998-7600 for details.

**POSITIONS WANTED:** Anyone can run a "Position Wanted" ad, FREE of charge (25 words max), and it will appear in the following 2 issues of *Radio World*. Contact information will be provided, but if a blind box number is required, there is a \$15 fee which must be paid with the listing (there will be no invoicing). Responses will be forwarded to the listee, unopened.

Mail to: Broadcast Equipment Exchange  
P.O. Box 1214, Falls Church, VA 22041 Attn: Simone Mullins

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# Radio World

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I would like to receive or continue receiving **Radio World** FREE each month.  Yes  No

Signature \_\_\_\_\_ Date \_\_\_\_\_

Please print and include all information:

Name \_\_\_\_\_ Title \_\_\_\_\_

Company/Station \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Business Telephone ( ) \_\_\_\_\_

Please check only one entry for each category:

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- D. Combination AM/FM station
- A. Commercial AM station
- B. Commercial FM station
- C. Educational FM station
- E. Network/group owner
- F. Recording Studio
- K. Radio Station Services
- G. TV station/teleprod facility
- H. Consultant/ind engineer
- I. Mfg, distributor or dealer
- J. Other

#### II. Job Function (check one)

- A. Owner/President
- B. General management
- C. Engineering
- D. Programming/production
- G. Sales
- H. Programming/news
- J. Promotion
- F. Other

### Reader Service P76

JUNE 11, 1997 issue Use until SEPT. 11, 1997

Please first fill out contact information at left. Then check each advertisement for corresponding number and circle below.

Purchasing Authority

1. Recommend 2. Specify 3. Approve

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U.S. West: Dale Tucker	916-721-3410 Fax: 916-729-0810
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A-500 Console S/N 20789 delivered April 1993  
A-500 Console S/N 20792 delivered April 1993  
A-6000 Studio Furniture delivered March 1995  
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1995 Academy of Country Music Award  
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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*

 **Wheatstone Corporation**  
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