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**On the Road With SBE**

Add these regional engineering events to your calendar.

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**Stormy Weather**

We stop in for a visit at AM station KOMJ in Omaha.

Page 48



# Radio World

The Newspaper for Radio Managers and Engineers

August 16, 2000

**INSIDE**

**NEWS**

▼ Uncle Sam uses more than just shortwave to get his message out. But is the IBB media mix appropriate? Two views.



Inside

**ENGINEERING**

▼ Gentner's product strategies pay off in record results and recognition from the business community.

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▼ Take a tour of Ohio's historic WLW transmission plant this fall.

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**GM JOURNAL**

▼ She was Corliss Archer. Judy Jetson and Penelope Pitstop. Meet Janet Waldo.

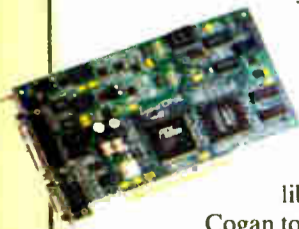
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▼ Don't let FCC rules for political ads get you down. We can help.

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**STUDIO SESSIONS**

▼ Dennis Martin tries out the LynxONE audio card. Sallie Sauber dips into the Nightingale Music Productions library. And Paul Cogan tours Neutrik in Liechtenstein.



In This Issue

**RW NewsBytes Now Every Business Day at [www.rwonline.com](http://www.rwonline.com)**

## Spectrum Coordination Critical at Conventions

by Randy J. Stine

**NEW YORK** Frequency coordination at political conventions is a difficult assignment because of the number of radio and television news organizations using wireless equipment.

Broadcast Engineer Louis Libin, a 16-year broadcast veteran and consultant, is

serving as frequency coordinator at the Republican and Democratic National Conventions this summer.

"It's the single highest use of RF for any event in one central location," Libin said. "A Super Bowl can't even be compared to it. At least there, you have just a single broadcast rights holder. At conventions,

See CONVENTION, page 8 ▶

## Diversity Down Since Consolidation

by Lyssa Graham

If you talk to a woman in the industry, you're likely to hear that the consolidation of radio markets has made her life more difficult.

Conventional wisdom holds that the greater efficiencies that come with consolidation have led to fewer radio employment opportunities. And with fewer opportunities overall, the challenge to maintain staff diversity has increased.

Some group executives say the buying spree in radio properties will continue. In a speech to a group of his managers at the Infinity convention in Las Vegas in May, Infinity Broadcasting Chairman/Chief Executive Officer Mel Karmazin assured them that consolidation was not over, according to several who were there.

Betsy Cameron, communications attorney and partner in the Rainbow Radio Group in Ft. Lauderdale, Fla., said that she feels that the drop in radio opportunities has occurred at every level, from fewer entry-level

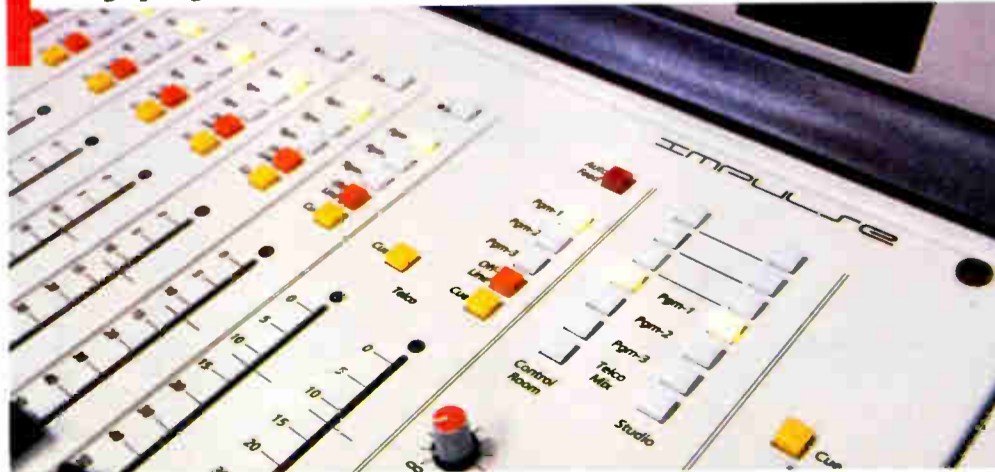
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## Austin Radio Sings A Successful Tune

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# NEWSWATCH

## Fall Arguments Planned for LPFM Appeal

**WASHINGTON** NAB's legal appeal of the low-power FM rulemaking has moved forward, and oral arguments are scheduled for November.

The association filed a brief with the U.S. Court of Appeals for the District of Columbia Circuit to prohibit the FCC from implementing LPFM frequency allocations.

The FCC "abdicated its critical role in preventing interference" by creating a new class of low-power FM stations that would

add hundreds of stations to the FM band," stated NAB in the July filing.

NAB stated the FCC was "arbitrary and capricious" in its LPFM rulemaking for several reasons.

Oral arguments are set for Nov. 28.

## Post-Ceridian, Arbitron to Pursue Alliances

The Arbitron Co. and its parent company, Ceridian Corp., intend to split into

two publicly traded companies. The firms would still be named Ceridian Corp. and The Arbitron Co.

The goal is to create two focused, independent companies in order to better serve different markets.

Arbitron officials said the split would make it easier for them to pursue alliances for its Portable People Meter and InfoStream technologies.

The transaction is intended to be in the form of a tax-free dividend. Officials expect the deal to be completed by the end of the year, subject to a favorable IRS ruling.

After the transaction, Ceridian will comprise human resources and Comdata businesses.

Stephen Morris, who serves as president of Ceridian's Arbitron business, will be named president/CEO of The Arbitron Co. Ronald L. Turner, chairman, president/CEO of Ceridian, will continue in that capacity.

Arbitron is based in New York, with a research and operations center in Columbia, Md. Ceridian is headquartered in Minneapolis.

— Sharon Rae Pettigrew  
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### OPINION

## AUDITRONICS 4.0 NuStar

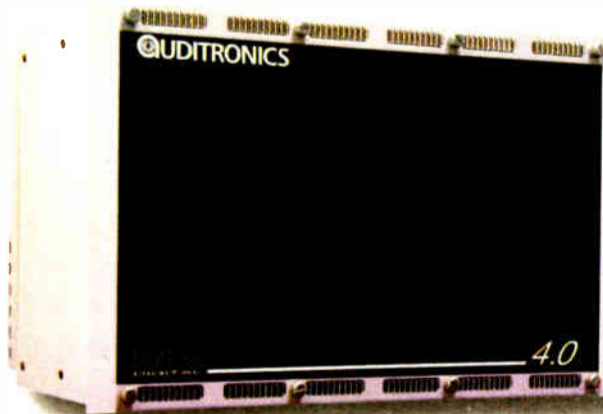
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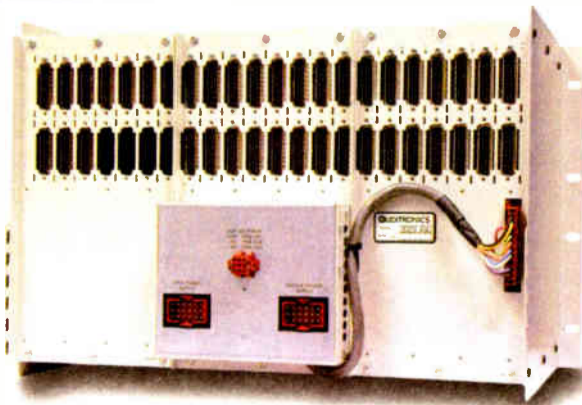
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**AUDITRONICS**





# Dorrrough Wins Technical Emmy

by Naina Narayana

**Woodland Hills, Calif.** Michael Dorrough can't remember a time when he wasn't interested in audio.

When he was in kindergarten, the co-founder and president of Dorrough Electronics used to wonder why he could feel the radio announcer's breath when he put his hand against a speaker but couldn't see the announcer in the speaker.

It may have been that puzzlement that sparked his fascination with audio equipment.

"I always enjoy running into problems," Dorrough said. "I never get frustrated, just more challenged."

After more than 35 years of working in the audio business, Dorrough's passion for sound has earned him the recognition of his peers and awarded him two recent honors.

In April, he received the NAB Radio Engineering Achievement Award. In June, the National Academy of Arts and Sciences awarded him a technical Emmy for his unique audio monitor, called the Dorrough Loudness Meter.

"A lot of people took to (the meter), but because it wasn't like other products, they got some flak," Dorrough said. The award, he said, "really vindicated all those people who took a chance on it."



Kay and Mike Dorrough with their Emmy statuette

Photo: Leonard J. Charles, Chief Engineer WISC-TV

## NEWSWATCH

► Continued from page 2

### RAB's Cornils Memorial Scheduled

An industry-wide memorial service is scheduled immediately prior to the opening of the NAB Radio Show in San Francisco, in honor of Wayne Cornils, who died July 5 in Colorado Springs.

Cornils most recently served the RAB as executive vice president of meetings, a post he held for nine years. His nearly 50-year radio career included stints as an announcer, engineer and station manager, to the head of radio at NAB.

"Wayne had a tremendous impact on this industry," stated RAB President and Chief Executive Officer Gary Fries.

"His commitment to radio was a model and inspiration for many of us. We hope this service will give everyone whose life and career he touched an opportunity to honor his memory."

Memorial contributions can be made in Cornils' honor to the Broadcast Foundation Endowment Fund or The Roaring Fork Conservancy in Basalt, Colo.

His wife, Wendy Green, three grown children and several grandchildren, survive Cornils.

The tentative date of the service is Sept. 20.

— Sharon Rae Pettigrew

### FCC Upholds 'Bubba' Fines

**WASHINGTON** The FCC has upheld \$30,000 in fines against Citicasters Co. for airing what the FCC considers indecent material on four occasions during morning drive.

The case dates to 1997 when Citicasters owned WXTB(FM), Clearwater, Fla. The station has since been owned by Jacor Communications and now is owned by Clear Channel Communications.

Citicasters does not deny it aired the programming in question from local personality "Bubba the Love Sponge" during morning drive, which is outside the so-called "safe harbor" of 10 p.m. to 6 a.m. for material the commission considers indecent.

Some of the bits the FCC believes are indecent included discussions of

eating, sex and an air gun (RW, Sept. 16, 1998).

But Citicasters said the FCC needs to issue long-awaited indecency guidelines before it can properly answer the commission as to why the fines should be dismissed or reduced.

The FCC rejected Citicasters' argument and upheld the fines. The commission said its indecency definition "has remained unchanged for years," and in "specific rulings, we have amply illustrated what broadcasters may and may not do."

### More Mergers May be Denied

**WASHINGTON** More merger requests pending before the FCC would be denied if the commission has substantially less time to review the transactions, Chairman Bill Kennard predicted.

A proposal moving through the U.S. House of Representatives to limit the amount of time the FCC has to review most mergers to 90 days has passed the House Telecom Subcommittee. The measure, H.R. 4019, sponsored by Rep. Chip Pickering, R-Miss., has been forwarded to the full Commerce Committee for a vote.

Kennard said most merger reviews before the FCC are completed within 180 days. It is rare that such a review takes longer, he said. Further limiting the time the commission has to scrutinize a deal would "force more mergers to be denied outright," said Kennard.

### Saga Leaves Iceland Radio

**GROSSE POINT FARMS, Mich.**

Saga Communications Inc. is getting out of Icelandic radio.

Saga Communications of Iceland Inc., an American company that owns 79 percent of the Icelandic radio company Fine Media, has sold all shares to Northern Lights Communications. NLC now owns 10 of the 13 Icelandic radio stations.

Operations in the Icelandic radio market have been difficult, stated a Saga spokesman. "The operations in Iceland are the only overseas business the company has undertaken ... the distance has caused both logistical and managerial difficulties," stated the spokesman.

### Trailblazer

The process to create the audio meter started in the late 1980s, Dorrough said. While watching television, he noticed a loudness problem even though stations across the nation had limiters that should have regulated the amplitude.

So he and a team of engineers conceived a meter based on both amplitude and time. The result: a monitor that registers both staccato sound as well as power and allows engineers to even out the sound during post production.

For example, Dorrough said, when comparing rock and folk music modulated for television, rock seems louder because of the number of instruments and the intensity. The Dorrough meter allows engineers to dissect the sound and examine the negative effects.

Though the device has been on the market for years, it only recently

caught the attention of the National Academy of Arts and Sciences. According to Dorrough's wife and co-founder of Dorrough Electronics, Kay Dorrough, "Now, just about everyone is using it. The (other) equipment finally caught up with it."

Kay, who received her own Emmy statuette on behalf of the company, has spent the past 12 years marketing the product all over the world. She attributes the company's success to a commitment to one type of audio products.

Though he is celebrating the acclamations, Dorrough remains hard at work, collecting and fixing up old radio equipment and creating new audio processing products. He is halfway through the patent process for a new multiband limiter and expects to build a prototype within a year.

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# RW Readers: 'Keep It Coming'

The verdict is in: you want **RW** to report the news, no matter where we find it.

I wrote in a recent column (July 5, "How Dare You? How Dare You?") about complaints we had received from a small number of readers who were offended by an article in these pages.

The original article told the story of Lyle Henry and the National Association of Gay & Lesbian Broadcasters. It generated several letters from individuals who felt the topic was out of place, that we were supporting a homosexual agenda simply by reporting the group's existence and that **RW** should stick to the hardware.

Happily, such views clearly are in the minority among our subscribers.

"I say 'right on' to your editorial," wrote Gary Daigneault, PD and news director of KCDZ(FM) in Joshua Tree, Calif., a 22-year journalism veteran and the incoming president of the Associated Press Television-Radio Association for California and Nevada.

"As journalists we have an equal responsibility to cover all aspects of this industry. We can only hold up the mirror to society and report all that is reflected in that mirror. ... More people are served by journalistic integrity than by commercial prejudice."

Margaret Bryant of ABC Radio Networks in Dallas, whom we profiled in our April 26 issue, wrote, "Bravo. I thought you were brave to include a story about Lyle Henry and his organization, but even braver to put a teaser on the front page about it.

"Thank you for standing by your decision to publish. You are not advocating a 'homosexual agenda' any more than by publishing an article about Christian radio you are advocating Christianity. Both are just news. It's such a shame that people are afraid of information."

Frank Foti, president of Cutting Edge, called the article informative and a wonderful human interest feature.

"It's my responsibility in life to sup-

port all human beings regardless of their preference to creed, nationality, or sexuality," Foti said. "I continually find that life expands its own horizons by thinking this way. It's my hope that the rest of the 'brethren' in our industry might consider the same thought process.

"I wish to applaud Lyle on his work, and his beliefs. His life experience choices have never stood in the way of the exemplary work he has achieved in the broadcast industry."

## As journalists we have an equal responsibility to cover all aspects of this industry.

— Gary Daigneault

Bob Schroeder wrote from Trenton to say hi and ask if I recall sharing the Chicken Maryland at past SBE Chapter 18 meetings in Philly. He is the communications officer for the New Jersey State Police Office of Emergency Management — the guy who writes the state EAS plan.

"I write a newsletter column for the Delaware Valley Radio Association. There's no subject too sacred. When I express my opinion, I make it clear that that's what it is. If I write something that's historical or instructive, it's clear which is which," Schroeder said. "What's more, my readers can tell the difference."

"Our newsletter is up on the Web, so whatever I say could be read by anyone on the planet. As such, I recognize the grave responsibility to be fair and accurate."

Barry Thomas, director of engineering of Comedy World Inc., applauded the way **RW** handled the coverage.

"I was dismayed recently at the vicious response that ensued on one of the tech listservers after Lyle Henry posted his invitation to the annual lun-

cheon of the gay and lesbian broadcasters. I can appreciate the letters you probably received as a result of your profile of him.

"I can never understand such intolerance that doesn't seek to appreciate the skills and dedication of a fine broadcast engineer," Thomas said. "Your article neither endorsed nor promoted any lifestyle but reported Lyle's dedication to his career and issues in which he is passionate. Would we all be so dedicat-

ed to our own convictions and be less critical of others' issues."

I also received supportive comments from a number of **RW** writers and contributors, including Cris Alexander of Crawford Broadcasting.

"It's not surprising to me that someone was upset about the piece. There are always those who seem to think if we don't talk about an issue, it will go away. Sorry, but it doesn't work that way.

"What did surprise me was some of the other responses you mentioned. I guess that to many, their own little corner of the industry is all that exists. To some production types, production and recording equipment exists to the exclusion of all others. To some transmitter gurus, anything upstream of the audio processor is a waste of solder and wire. I've seen these attitudes over the years but thought they were more isolated. Apparently not."

Most touching to me was a call from a radio veteran who is gay and a member of an ethnic minority, who said on my voice mail, "There should be more

## From the Editor



**Paul J. McLane**

people like you who stand up for what's right in this business."

I'm honored to receive such words from my industry colleagues. More important, these opinions come from all over the country and from readers who occupy the entire liberal/conservative spectrum.

We seem to be doing something right. Thanks to all who support our efforts.

★ ★ ★

I told you last month about the superb panel of technical radio managers that will convene to kick off the upcoming NAB Radio Show in San Francisco.

Add Jeff Littlejohn's name to the list. He is vice president of engineering for AMFM, which is merging with Clear Channel, so he's right in the middle of the industry's biggest consolidation issues.

He has been in engineering management for 13 years and also worked for American Media, Chancellor Broadcast, Chancellor Media and Beasley Broadcast.

Jeff joins a power panel that includes Charlie Morgan, Andy Butler, Frank McCoy and Barry Thomas. I have a couple more names to draw you in, too.

Remember, it's early in the show, Wednesday morning, Sept. 20. I'll be moderating and asking questions along with the audience at the roundtable discussion. Don't miss this one.

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# Noncoms Seek New Engineer Blood

by Bruce Rogow

Radio, cable and television engineers have been asking the same question lately: Why can't we find qualified candidates to work for us?

This was the focus of a session at the Public Radio Conference in Orlando, Fla., in May.

Low salaries compared to other fields and the lack of new people coming into the field were discussed. Transmitter engineers are in particularly short supply, panelists said.

KPBS-FM, San Diego, for example, has had an unfilled position in RF engineering for nearly four years.

Panelists discussed how the engineering squeeze developed and suggested

start the hemorrhaging of talent from broadcasting. The idea of a job that offered excellent pay and benefits and did not require second-shift work or 24-hour on-call status, was quite appealing.

This was the beginning of the technical talent shortage in broadcasting. The rest of the story can be summed up in one word: Internet.

## WWW (We Want Workers)

The commercialization of the Internet has changed the way broadcasters conduct business. Broadcast engineers were among the first segment of the work force to learn computer-networking technology. This knowledge was added to the electronics and mechanical skills broadcast engineers already possessed.

With the rise of Internet broadcasters, the demand for workers with computer and broadcasting skills also increased. One only need click on a search engine to see the variety of Internet broadcast streams now available to the wired public. Internet broadcasters offer high salaries and often stock options to lure away broadcast engineers.

The proliferation of Internet broadcasters may account for the reduction of staff in many stations, but the other side of the equation represents a more serious challenge to broadcast engineering — few new workers coming into the field.

"Who are our replacements?" asked Ralph Hogan, assistant GM, engineering services for Washington State University's Northwest Public Radio and TV and the Washington Higher Education Telecommunication System

in Pullman, Wash. "Where are they going to come from?"

He looked into the audience and asked how many 20-year-olds were out there. "Our level of expertise is going away."

## You call that an offer?

With graduates of engineering colleges and technical schools being heavily recruited by communications and dot-com companies, broadcasters have slipped into a competitive disadvantage.

Holding onto starting salaries in the \$30,000 to \$50,000 range, with 24-hour on-call responsibility, broadcasters are finding little or no qualified response to open positions.

The "qualified" aspect is as important as the knowledge, skills and abilities broadcasters demand from applicants.

Broadcasters expect engineers to have experience in high-power transmitters and microwave, satellite systems, digital and analog audio, computer networks, telephone systems and various types of tape and hard drive recording systems.

Those skills alone make it difficult to find qualified applicants.

Applicants must also have interpersonal skills, be customer service-oriented and able to work unsupervised with a diverse array of personalities.

Finally, broadcast engineering applicants must possess business skills and the ability to manage a parts inventory, work with numerous vendors and be familiar

Service and the SBE president, said, "I have two positions that are currently open at PBS, and we pay every bit as much as the commercial broadcasters. We have the same union contract they do. We pay exactly the same as they do and we can't attract people and they can't either."

The salary issue must be addressed, he said. "We have to recognize the professionalism that we all have," said Butler. "We have to not be ashamed of our enthusiasm, but look for ways to inspire that enthusiasm in the folks we want to

## A prominent San Diego station has had an unfilled position in RF engineering for nearly four years.

with FCC rules and regulations.

This constellation of skills is difficult to find in applicants just out of school.

"You and I both know that good broadcast engineering cannot be achieved from books alone," said Bob Nock, director of audio engineering at National Public Radio. "There's nothing that can take the place of hands-on training and guidance from an experienced broadcast engineer."

Finding qualified technical applicants is not a problem unique to public broadcasting. Andy Butler, senior director for engineering at Public Broadcasting

bring into this industry. And when we bring them in, let's make sure we pay them what they're worth."

Hogan also mentioned salary: "The salaries are not there yet, but that is something that has to change to be competitive and to encourage people to come into the field. I changed positions two years ago. My position that I left is still unfilled. Managers have to come up with salaries that are commensurate with the job."

One initiative the SBE has developed to attract new technical talent is its youth

See PRC, page 10 ▶



Shown is the tower site for Verizon and GTE Cellular in Borrego Springs, Calif. The building is the Borrego Springs Fire Department, which owns the tower. Broadcast must fight cellular and other industries for engineering talent.

ways to hire more technical help.

Panelists agreed that as recently as 8 years ago, the existing population of broadcast engineers in radio, cable and television was stable. Several applicants typically applied for each opening.

In the early '90s, the country had come through the era of corporate downsizing and there was more available technical talent on the market, panelists agreed. Salaries also were reasonable.

However, the seeds of the current technical staffing shortage were being installed on the desktops of businesses everywhere. The personal computer was transforming the economy. As broadcasters and businesses in general bought more computers, it became clear that the complexity and occasional unreliability of computer software was spawning a new industry.

Technicians who could keep these computers running became a critical part of every business. Information Technology departments were formed and new high-paying jobs were created.

That alone might have been enough to

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## GUEST COMMENTARY

# U.S. Moving Away From Shortwave?

by Jack Quinn

There must be something in the water that causes some of Washington's high-level political appointees to ignore good engineering practices and the laws of physics.

First, despite the failed example of the Italian FM deregulation free-for-all, the FCC has decided that the creation of low-power FM will not degrade decades of the agency's careful spectrum management. Secondly, the U.S. Department of State and the International Broadcasting Board appear to believe they can substitute FM, the Internet and satellites for high-power international shortwave broadcasting.

## Hope to the oppressed

The Voice of America and Radio Free Europe/Radio Liberty have provided the world's closed societies with the truth about what goes on in their own country and in the rest of the world. Ex-USSR President Mikhail Gorbachev admitted that these radios gave hope to the oppressed and were instrumental in bringing about social change and democracy to countries that were previously under the Soviet Union's domination.

While there is no longer a so-called Cold War, the planet is not entirely peaceful, and the world press is not free. It is still unstable — perhaps more so than ever — and there is a desperate need to continue our powerful beacons of truth and hope.

## The IBB and the State Department's younger computer generation seem to believe shortwave radio broadcasting is now passé.

In 1995, all the U.S. radio services — VOA, Radio Free Europe/Radio Liberty, Radio Free Asia, and Radio Marti — were combined under the new IBB with an oversight board of governors comprised of presidential appointees and a director.

Since October 1999, they report to the U.S. Department of State directly instead of the U.S. Information Agency,

thanks to Sen. Jesse Helms, R-N.C. He insisted that the USIA be eliminated effective Oct. 1, 1999, as part of his negotiations creating the 1995 Department of State Reorganization Act.

I believe the USIA is the first agency in the history of the United States gov-

ernment to be terminated. It was created at the outset of the cold war to combat USSR propaganda against the United States. The USSR was dissolved in the late 1980's. Now there was no reason for it to exist.

With all due respect, *none* of the IBB board members or the present IBB director has had hands-on broadcast experience, especially in high frequency shortwave.

Unfortunately, the IBB and the State Department's younger computer generation seem to believe shortwave radio broadcasting is now passé. So misguided is their thinking, they recently replaced the director of engineering — an honest world-renowned engineering authority — because he wouldn't support their misguided technically deficient conceptions.

## Only FM?

During the Kosovo war (fall of 1999), State Department officials decided that young people of today listen only to FM. When the crisis arose, they insisted on the immediate installation of five stations distributed throughout Romania, Bosnia, and Kosovo mainly targeting Belgrade and Novi Sad, the two major Serbian population centers.

As FM broadcasting is limited to line-of-sight, borders cannot be penetrated further than a few dozen miles, depending upon the transmitter site elevation and the mountainous terrain.

For example, the radio horizon is only 100 miles from the Romanian 5,000-foot mountaintop installation. Belgrade is 80 miles away, but it only takes a 100-watt jammer to lock on to every FM receiver in the coverage area.

Although the IBB uses Harris 10 kW transmitters with eight stacked Scala log-periodic arrays having 14.5 dB total gain for an effective radiated power of 300 kW, President Slobodan Milosevic's Serbian government can, and has, jammed these broadcasts at will.

The State Department and IBB argue that we need new methods to deliver programs in this 21st-century. Why not the Internet or satellites instead of shortwave? They are not yet viable substitutes by any means. Some of these techniques are now in limited use by IBB, but further expansion must first be sub-



Jack Quinn

ject to the *availability* of such new technologies in the third world countries.

The vast populations of the world are still in under-developed countries. The Third World has historically relied upon medium-wave and shortwave transistor radios. To them, the recently introduced BayGen hand cranked radio made in South Africa (which does not require expensive and scarce batteries) is a significant development.

It's anyone's guess as to when these countries will have new technological capability, but it is safe to say that it won't be for another decade or two, at least. In the meantime, we have no choice but to maintain our existing time-proven broadcasting system.

## No substitute for high power

FM, the Internet or satellite transmissions cannot substitute for a network total of 144 high-power, 250,000- and 500,000-watt medium- and shortwave stations worldwide. And even these facilities need to be upgraded in order to adequately cover today's international hot spots.

The dollar value of all IBB technical facilities is in the order of \$3 billion to \$4 billion. They could probably not be duplicated today for that amount, and the engineering talent required for such a tremendous effort no longer exists.

The present U.S. government's 10-year foreign transmitting site lease agreements are irreplaceable, and because of political changes, it is doubtful that they could all be renegotiated at all, or on the same terms. What has taken several decades to build must be carefully maintained for the foreseeable future.

To avoid irreparable damage to our international broadcast services, the State Department and the IBB Board of Governors must proceed with caution. If there are any doubts that medium- and shortwave broadcasting are the only practical delivery systems, then Congress should demand a review by an independent professional advisory group — from both inside IBB and outside technical experts — to avoid irreparable damage to our international broadcast services.

Jack Quinn has been involved with the VOA and RFE/RL throughout his career including stints as manager of Technical Operations, RFE, Munich, 1952-1956 and 26 years as director of marketing for EIMAC/Varian supplying high-power vacuum tubes and applications assistance to both organizations and their suppliers.

Reach him at (707) 526-6769 or via e-mail at W6MZ@worldnet.att.net  
RW welcomes other points of view.



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GUEST COMMENTARY

# Overseas Distribution Evolves

by **Brian Conniff**  
Acting Director, International  
Broadcasting Bureau

U.S. international broadcasting faces a new dawn of unparalleled opportunities. The technology has never been better, access to audiences never greater and resource allocation never more flexible.

While shortwave remains the primary — and sometimes only — way to reach audiences around the world, new and dynamic program delivery methods have emerged. Independent audience research indicates that in many countries — strategically important countries — people have turned off their shortwave radios even as they have turned to local AM and FM, TV and the Internet for news and information. We have an exceptional opportunity to reach and attract new generations of listeners and viewers with the messages of hope and freedom.

## Deep reach of shortwave

Make no mistake about it: short and medium-wave radio continues to be the mainstay of U.S. government-funded international broadcasting. Indeed, shortwave accounts for the majority of our audiences worldwide and remains the surest way to reach deep inside hostile borders and areas of conflict.

Our broadcasts continue to serve a critical function in, for example, crisis-torn Nigeria where we are one of the only sources of balanced news, delivered in English, the dominant language in the South, and Hausa, the dominant language in the North.

**We will fulfill our mission ... through a dynamic mix of broadcast media.**

Important as it is, however, shortwave does not and cannot satisfy the needs of all of today's audiences. Now is the time to diversify our transmission modes. In fact, we would be irresponsible if we did not do so. The challenge before us is to match limited resources with the technologies appropriate to the needs of our audiences in the new millennium. This is both good engineering and good policy.

There is no "one size fits all" medium to reach our audiences. U.S. international broadcasters tailor a mix of media and delivery methods to serve audiences most effectively in each language target area. Careful audience research guides the selection of the best programming concepts and the most appropriate broadcast media.

In fact, the International Broadcasting Act of 1994 calls for an annual strategic language service review, which requires us to direct and concentrate U.S. international broadcasting's resources to the areas of the world where they can have the greatest impact. This implies setting priorities and periodically adjusting the

allocation of resources.

Since Oct. 1, 1999, U.S. international broadcasting has been consolidated under the independent oversight of the Broadcasting Board of Governors. The broadcasters include the Voice of America, Worldnet Television, Radio and Television Marti, Radio Free Europe/Radio Liberty and Radio Free Asia.

The nine-member board is a bipartisan body nominated by the president and confirmed by the Senate from among Americans distinguished in the fields of mass communications, print, broadcast media or foreign affairs. The secretary of state serves as an *ex-officio* member.

In testimony before the Senate Foreign Relations Committee on April 26, 2000, the board explained the significance of this new independent status:

"The creation of this new entity also reaffirms the role of international broadcasting in the new century as a voice of human rights and democratic freedoms with new global challenges and priorities to address ... International broadcasting will continue to be vital as long as segments of the world's population are denied access to a free press and hunger for alternative sources of news and information about their own countries and the rest of the world ... Our mission is growing as are



Brian Conniff

our methods of delivering news and information to people around the globe."

We have chosen to increase our reliance

See IBB, page 10 ▶

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# New Services Dominate WRC-2000

by T. Carter Ross

**ISTANBUL, Turkey** Every two to three years, regulators and officials from around the world gather under the auspices of the International Telecommunications Union to decide how best to use the limited amount of spectrum space available in the ether.

Some years, the discussions are fairly routine. But thanks to the advent of third-generation mobile services, or 3G, as well as the growth of new Internet- and satellite-based services and a host of administrative issues, attendees of the 2000 World Radiocommunication Conference faced heated discussions.

## Regulations treaty

Opened by the Turkish deputy prime minister and the minister of transportation and communications, WRC-2000 brought more than 2,000 delegates from 150 nations to the new Istanbul Conference and Exhibition Centre. The event ran for several weeks and concluded in early June.

Each WRC forum gives signatory nations the chance to revise the international radio regulations treaty, which covers allocations for more than 40 radio communication services, as well as the technical, operational and regulatory conditions for use of the radio frequency spectrum and satellite orbits.

The various WRC working groups were conducted under the oversight of the chairman of the board of Türk Telecom.

The biggest task facing delegates was the need for additional spectrum space for 3G services based on the IMT-2000 specifications. By 2010, some 2 billion people worldwide are expected to be using 3G mobile services.

The conference agreed to provide three common bands, available globally, for the implementation of the terrestrial component of IMT-2000, although these bands will not be closed to other services.

The second part of this decision means governments will have flexibility in implementing such services, and existing and upcoming digital and analog broadcast and telecom services will not be displaced in favor of 3G.

The three bands approved for IMT-2000/3G use are one band below 1 GHz; another at 1.7 GHz, where most second-generation services operate; and a third band in the 2.5 GHz range, which was already reserved for 3G services.

## Satellites

Also decided during WRC-2000 was a realignment of the broadcast-satellite plan for ITU Region 1 (Europe, Africa, the Middle East and Russia) and Region

2 (Asia, Australia and the Pacific). The broadcast-satellite plan was a contentious issue during WRC-97.

According to ITU officials, "quiet negotiations" helped smooth over disagreements, allowing delegates to proceed with a new plan designed to deliver direct-satellite TV and audio signals to a broader customer base.

Under the new plan, generally one orbital position per country in Europe and Africa that can deliver the equivalent of 10 analog channels will be allocated. For Asia and Australia, 12 analog channels will be available per the orbital position of each country.

The WRC-2000 plan ensures that each nation has orbital space available

to be taken advantage of when economic conditions allow.

The meeting also provided allocations for additional global positioning services and for the sharing of space between geostationary and non-geostationary satellites in the Ku band.

## Worldwide

The latter agreement allows for the development of new space-based broadband services that promise to bring Internet and multimedia services to every corner of the globe.

WRC-2000 also addressed allocations for high-density fixed services that provide wireless point-to-point and point-to-multipoint services, the establishment of "quiet zones" for radio astronomy, and administrative rule changes designed to clear the processing backlog for new filings for satellite networks.

## Convention

► Continued from page 1  
we'll have well over 100 television and radio broadcasters."

As frequency coordinator, Libin's job is to coordinate broadcasters transmitting voice and video signals within a limited RF spectrum.

A pool of broadcasters, this year headed by NBC Television, selects the frequency coordinator. The same person serves at both conventions. The media pool consists of major radio and television news organizations. More than 300 media outlets, both print and electronic, planned to cover the conventions this summer.

Libin and a team of fellow engineers began working on the frequency coordination process early this year. The frequency committee, part of the Broadcast Operations Communications Authority 2000, consists of broadcast engineers, law-enforcement and public-safety officials. All of the major broadcast news organizations are represented.

The committee did extensive advance planning to limit on-site interference problems. This included the creation of a database of requests from news organizations and assigned frequencies.

The committee first had to determine the spectrum range available in Philadelphia for the Republican National Convention July 31-Aug. 3, and in Los Angeles, the site of the Democratic National Convention Aug. 14-17.

"We needed to carve out a chunk of spectrum, find that spectrum and then split it up for a whole new set of usage," Libin said. "We needed to find clean spectrum, or as clean as we could, not only for the convention site, but also for the whole city. These conventions kind of take over a city."

## Frequency concerns

Wireless mics, wireless cameras, RPU, microwave, law enforcement transmissions, STL, two-way radios and even cell phones are a concern for the frequency coordination committee.

"We want to minimize interference and inconveniences to local broadcasters, but at the same time, we have make sure the news organizations can operate efficiently on the convention floor," Libin said.

In both Philadelphia and Los Angeles, Libin said part of the UHF band was

designated for convention use under special temporary authority from the FCC. He declined to identify the specific MHz range. Auxiliary broadcast channels in the 150 to 160 MHz bands and 450 to 451 MHz band were to be used.

Once the spectrum requirements were determined, broadcasters were assigned specific frequencies months in advance. Requests came from both national news organizations and local stations, Libin said.

## Planning

Libin, a veteran of both political conventions in 1996, said frequency coordination is the main thrust of the planning stage, but enforcement begins several days prior to the start of a convention.

Two days of "war games" and full testing on the weekend prior to the convention give Libin and other members of the team an idea of possible conflicts.

"Everybody goes on with everything and we then try to decipher what's causing what problems. Once the event begins, enforcement is limited because of the sheer amount of radio use, so planning is everything," Libin said. "Even with direction-finding equipment on the floor, it can be hard to pinpoint offenders."

FCC field staffers are present at the conventions to help encourage compliance and resolve disputes, Libin said.

The eight-person frequency coordination team's technical equipment includes Opto Electronics frequency counters with display readouts, hand-held scanners, spectrum analyzers and Doppler Systems direction-finding equipment. The DF (direction-finding) units can be used to locate an offending broadcaster even in a very high RF environment on the convention floor, said Libin.

Members of the broadcasters' pool and the local frequency coordinators provide testing equipment, Libin said.

"Interference problems are not very easy to track down because often they are not on the actual carrier frequency of the transmitter itself. Many times (interference) is formed by a multiple of more than one transmitter, called intermodulation product," Libin said.

Libin recommends broadcasters who plan to broadcast from the conventions go through the two days of testing and limit any extracurricular broadcasts. "Always identify yourself and bring any concerns to the coordination team," he said.

Broadcasters must have all equipment properly identified during the conventions. Committee members place stickers upon all equipment tested for being within compliance.

Broadcast Engineering Consultant Ron Hacker, frequency committee chairman for both the RNC and DNC in 1996, said interference often is caused by events that seem innocent enough.

"Sometimes it was a person keying a mic on a two-way radio when they closed their briefcase or someone leaving a wireless mic turned on that caused problems, little things like that," Hacker said.

He recalled an instance in 1996 at the RNC in San Diego in which an RF overload occurred on the convention floor as Elizabeth Dole, wife of that year's Republican presidential nominee Sen. Bob Dole, strolled to the floor and turned on a wireless mic to address delegates.

"I had a spectrum analyzer in my hands and just as she made her way to the floor, everyone in the place turned on their wireless microphones at the same time. When it comes on, (an RF mic) generates frequencies all over the place until it locks in. So the analyzer just went full noise across the screen. (It) just about blew up the spectrum analyzer."

After several moments of not being heard inside the convention hall, Dole's mic was usable again.

One of the challenges for frequency coordinators is keeping up with fast-changing technology.

"Everything seems to be wireless these days. Better technology can sometimes make our job easier, or sometimes more difficult," Hacker said.

"I remember when cell phones became prevalent and we were very concerned about those. Now we recommend people use cell phones. But they do generate a little RF."

Libin added wireless cameras to the list of technology breakthroughs.

"We see more and more of the RF television cameras. They're in the 2, 7, 13 and 40 GHz band — very high frequency — about three times that of cell phones. Still, it's just another bandwidth to deal with," Libin said.

Libin said the conventions usually turn out to be showcases for technology.

"It's a challenge to keep up with (technology) and it's certainly an issue every four years. We wonder if there is something new out there we are not prepared for."

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## BUSINESS DIGEST

## Harris Combines Radio, TV Units

**MASON, Ohio** The digital transition process for radio and TV has affected the way executives at Harris Corp. organize teams to make and sell equipment. So the company has shuffled management at the Broadcast Communications Division. Customers will communicate with the same sales and service personnel as before. But the management to whom *those* employees report changes.

The restructuring of the division was effective July 1. According to a memo distributed internally at Harris and signed by the president/GM of the division, Bruce Allan, the management changes are "designed to streamline our organization and provide needed focus on our business."

"The digital transition is blurring the lines between radio and television. They're still distinctly different industries, but as far as companies like Harris managing our business, it makes sense to put them together," said Jim Woods, who had been vice president of radio systems. He now leaves the radio part of Harris to become vice president of automation and management products.

Dale Mowry is now vice president of transmission systems, which encompasses radio and TV transmitter personnel. The radio transmission staff will report to him, including Don Spragg, director of radio RF products; Bill Rollins, director/GM of Intraplex; and Dave May, director of customer service.

Woods said, "Most of our transmitters have moved to solid-state (design). Television and radio transmitters are becoming very similar. A lot of the work we've done relative to digital television will enable us to do some things with IBOC, as far as linearizing transmitters — making them more efficient in passing the digital signal. This (effort) can translate to TV transmitters as well."

On the studio product side, Jay Adrick becomes vice president of the radio and TV studio businesses, called the studio products and systems business unit. The unit includes John Delay, director of DTV studio products; Dave Burns, manager of audio studio products; Jim Hauptsteuck, manager of digital audio products; Dave Pollard, director of radio studio systems integration; and Jack Williams, director of Pacific console product development.

Sales and marketing staffs have been combined under Jay Batista, now vice president of sales and marketing.

The responsibilities and reporting relationships for advanced product development remain unchanged. Geoff Mendenhall and his staff support the transmission product business unit.

— Leslie Stimson

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## PRC

► Continued from page 5  
program, said Hogan. Local chapter members are asked to go to high schools and colleges and encourage students and their families to attend SBE meetings on special youth nights and learn about broadcast engineering.

The SBE also has 14 schools in a certified schools program. Students in the youth program who maintain a B average have the opportunity to take a national exam and graduate with a Broadcast Technologist Certification. Coupled with this program is a publication titled "The Connector" that is aimed at the youth program.

A panelist suggested that coursework could be added to existing community college and technical school programs to create a "specialization in broadcast engineering."

### Educational materials

Industry members could also play a part. Manufacturers of broadcast equipment such as transmitters and computer automation systems could contribute educational materials from the factory training courses they offer when a station buys such equipment.

Both Butler and Hogan stressed the value and importance of the SBE certification program. They said that certification is an effective way for broadcast engineers to demonstrate the professionalism of the industry and enhance broadcast engineering's image to students.

Sharpening broadcast engineering's image sounded good to Bobby Tufino, a University of Miami student majoring in Audio Engineering and Music Engineering Technology.

"When I think about radio, I think it doesn't sound that good, it's old, and it's technology that's been around a really long time," he said. "It sounds bad in comparison to all the high-fidelity audio we are exposed to. Not enough people know that the broadcast industry is evolving as much as it is."

Tufino said what attracts young people to a field are the challenges and problems. He admonished the audience that if students do not know about the new developments and challenges in radio, they will focus on something else. He also said that students need to know there are available jobs out there.

"The first step is awareness," said Tufino. "If we don't know that in the broadcasting field there's new ground to cover, then we are not going to go near it. If we keep thinking that this is old technology, there's nothing for us to do, then we're probably going to stay away from it."

"Young engineers need to know that there is work to be done, that there's a challenge. Especially if we can be paid well for it, we will bite. We will go for it."

Got a hiring success story to tell? Share it with readers at radioworld@imaspub.com

## IBB

► Continued from page 7  
on radio and television satellite feeds to affiliate stations worldwide and to develop radio/television simulcast and call-in programs, along with television news magazines in multiple languages.

We are increasing the amount of information in the audio, video and text we provide to affiliates and individuals on the Internet. For example, in China, we are already sending news-filled e-mails to tens of thousands of subscribers at least once a day; they in turn, pass the information on. This has proved to be effective in evading attempts at censorship by the Chinese authorities.

In other areas, such as the Balkans, where more than 80 percent of ethnic Albanians in refugee camps listened to the Voice of America last year, we have demonstrated our ability to respond to a rapidly changing media conditions. Research had shown that many listeners in Serbia relied on local FM stations for news and information.

**Shortwave cannot satisfy the needs of all of today's audiences. Now is the time to diversify our transmission modes.**

However, early in the crisis, the Serbian government clamped down on local news and banished Western broadcasters from local affiliates. We quickly arranged to set up a ring of FM stations around the country. These FM broadcasts did not substitute for our existing short- and medium-wave services into the area. The FM stations complemented an expanded short and medium-wave service so that we were literally able to blanket the Balkans with our signal coverage and give the audience every possible chance to receive truly vital information.

The strategic importance of U.S. international broadcasting is undeniable. We will fulfill our mission in the new millennium of optimizing our reach, our effectiveness and our audience through a dynamic mix of broadcast media.

■ ■ ■

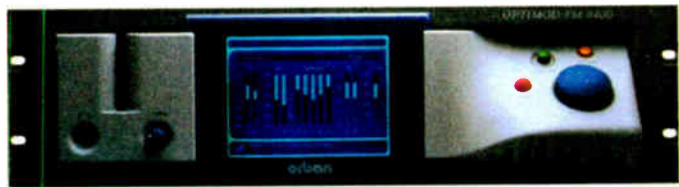
Brian Conniff is acting director of the International Broadcasting Bureau, which encompasses the Voice of America, Radio and TV Marti, Worldnet Television, and the office of Engineering and Technical Services.

Reach him via e-mail at [pubaff@voa.gov](mailto:pubaff@voa.gov) or by fax at (202) 619-1241.

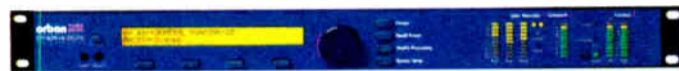
RW welcomes other points of view.



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FIRST PERSON

# IP Works in New Caledonia

by Jean-Luc Zimmer

**NOUMÉA, New Caledonia** At the end of 1998, the government's Office des Postes et Télécommunications launched a bid for the construction of a new FM transmitter network for Radio Rythme Bleu (RRB) and Radio Djiido in this French island territory in the south Pacific Ocean.

After examining the offers that arrived at OPT, we selected FMNET, a subsidiary of Aztec Radiomedia, for the project. The work had to be completed within four months, something FMNET guaranteed. On April 7, 1999, the transmissions started.

The appeal of the FMNET proposal was that it relied upon our existing telecom infrastructure of 2 Mbps fiber-optic and microwave links. More important, it brought IP2 connectivity to our FM network.

### Connectivity

The IP2 system, developed by Aztec Radiomedia, is an intranet-based control and monitoring system that uses TCP/IP protocols to survey, control and test remote equipment connected to a network. This product subsequently won a Cool Stuff Award from **Radio World** at NAB2000.

In the system FMNET installed for us, up to four audio programs and the

remote IP network to each transmitter sites are multiplexed across one 2 Mbps link.

The OPT radio transmitters — 16 sites, 34 transmitters — are spread across Grand Terre and the smaller neighboring islands that make up New Caledonia. Some of the sites can only be reached by four-wheel-drive vehicles and hour-long treks.

Traditionally, to configure, repair, maintain or start these transmitters, it was necessary to send out a team of technicians, sometimes by helicopter.

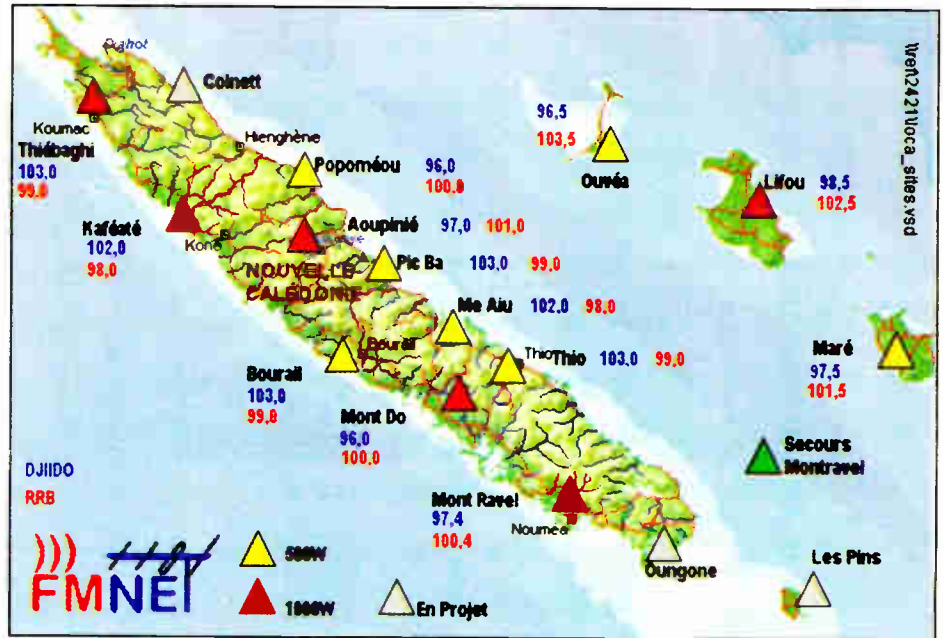
Using IP2, we administrate the entire network from Nouméa or anywhere else in the world via a simple computer that provides bidirectional communication and access via the intranet.

### Transmitter solution

To design a transmitter solution, FMNET collaborated with several manufacturers. A Sagem router receives and transmits audio information to an AETA Hifiscope 3 ISDN codec.

Then, at each transmission site, an Aztec FMX480 Digiplier shapes the signal that is supplied to an RFTS Helios FM exciter. The exciter feeds an RFTS Goliath amplifier that feeds the signal to the antenna.

All this equipment is connected to Aztec Radiomedia IP2com gateways that provide them with Web, FTP and



The OPT network in New Caledonia in the South Pacific

telnet embedded servers.

IP2 connectivity makes remote programming of the equipment possible.

Software is updated via FTP; telnet is used to modify equipment parameters; and PDF-format versions of the technical manual can be downloaded for consultation.

In the event of a problem, alarms instantaneously sound in the Nouméa control station, no matter which transmitter is in trouble.

During 1999, Aztec Radiomedia, trained our technical team in the use of the IP2 system. We know we can count on immediate support from Aztec

Radiomedia thanks to those Internet connections.

Within about a year of the first broadcasting transmission, we plan to extend our network to include some new stations and new sites. And, of course, these too will be connected to the IP2 network.

Jean-Luc Zimmer is technical manager at OPT in Nouméa, New Caledonia.

For information contact Aztec Radiomedia America in Virginia at (703) 875-9100 or visit the Web site www.aztec-radiomedia.com

## One Question, Three Answers

An actual email thread, June 8-11, 2000 on broadcast.net

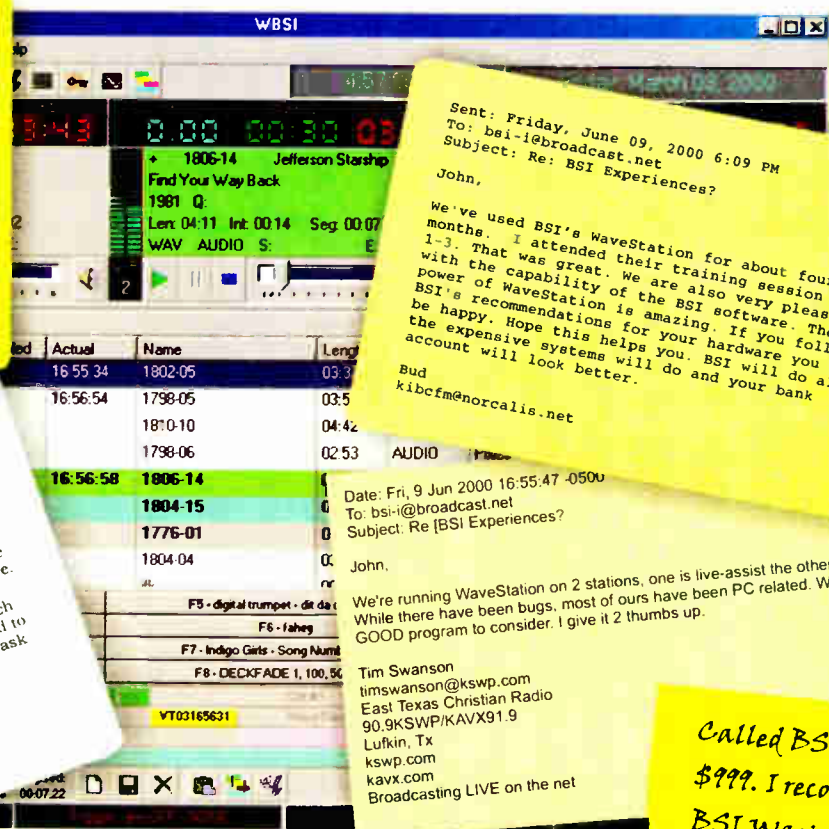
Thursday, June 8, 2000  
To: bsi-i@broadcast.net  
Subject: BSI Experiences?

We are a small AM station considering implementing BSI software to automate our station. It seems to have all the functionality that we would need. Is this a good solution? Thanks for your input.

- John

Sent: Sunday, June 11, 2000  
To: bsi-i@broadcast.net  
Subject: Re: BSI Experiences?

John,  
We started using WaveStation in January and are extremely pleased with it. It's been running glitch free.  
We use it weekdays in live assist to play our spots, PSA's, etc. and on weekends in full-automation. At 1p.m. both days, we lock the door and leave. WaveStation plays programs recorded earlier, picks up some programs live from satellite...joins news live at the top of the hour...records a couple of sports updates for playback a few minutes later...fades programs out...runs fill music...fades fill music, etc.  
We currently have only one computer set up for WaveStation. We will probably purchase a second one in the not too distant future.  
Perhaps it's a sad commentary on life, but WaveStation is much more reliable and dependable than the human beings we used to use...and Wave Station, as we call the system here, doesn't ask for vacations or pay raises.  
By the way, we are a small town AM station also.  
Bob Ketchersid  
WYXI, Athens, TN



Sent: Friday, June 09, 2000 6:09 PM  
To: bsi-i@broadcast.net  
Subject: Re: BSI Experiences?

John,  
We've used BSI's WaveStation for about four months. I attended their training session June 1-3. That was great. We are also very pleased with the capability of the BSI software. The power of WaveStation is amazing. If you follow BSI's recommendations for your hardware you will be happy. Hope this helps you. BSI will do all the expensive systems will do and your bank account will look better.  
Bud  
kibcfm@norcalis.net

Date: Fri, 9 Jun 2000 16:55:47 -0500  
To: bsi-i@broadcast.net  
Subject: Re: BSI Experiences?

John,  
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## NEWS MAKER

# Gentner Strategy Is Profitable

Robert Rusk

These are profitable times for Utah-based Gentner Communications.

The publicly traded multimedia communications company produced record results for its fiscal fourth quarter and fiscal year 2000. It has racked up several notable awards, and recently purchased the assets of an East Coast company to beef up its videoconferencing and audioconferencing lines.

The company, which is traded on NASDAQ, reported net income of \$4.7 million on net sales of \$30.9 million for the year ending June 30. That was an 86-percent increase in net income and a 34-percent increase in net sales over the year before. The company projects revenue growth of 40 to 50 percent next year.

## Product lines

In radio, Gentner is known for its phone hybrids and remote controls. But non-broadcast product lines have been an important part of the company's recent growth.

Fran Flood, president and CEO, said that with the introduction of Gentner Instant Access Conference Calling and an increased sales force, the Conferencing Services division performed at a robust pace. She anticipates continued growth in that division.

Her work has caught the eye of others. In May, the company won the Excellence

in Manufacturing Award from the Utah Manufacturing Extension Partnership, a private, nonprofit organization established by the U.S. Department of Commerce National Institute for Standards and Technology. The partnership helps improve the competitiveness of small manufacturers in Utah.

## Awards

Other awards under Flood's tenure include Arthur Anderson's Best Practices Award for motivating and retaining employees, the International Company of the Year Award from the World Trade Association of Utah and the Frost & Sullivan Market Engineering Competitive Strategy Award.

This summer, Flood won the 2000 Entrepreneur of the Year Award in the Turnaround category from the accounting firm Ernst & Young, her former employer.

She was credited for leading Gentner to 12 consecutive quarters of profitability, a first in the company's history, and "for transitioning the company from being primarily invention-driven into a professionally managed organization focused on profitability," according to an announcement from Gentner.

"Under her direction, revenues have nearly tripled while net income has increased almost 800 percent. The culminating effect of these efforts can be seen in the price of Gentner's stock, which has

risen over 2,000 percent," the company stated.

Gentner recently purchased the assets of ClearOne Inc. of Woburn, Mass., a privately-held developer and manufacturer of multimedia group communications products, for approximately \$3.7 million, including \$1.7 million in cash plus shares of restricted Gentner stock. It will retain ClearOne's facilities in Massachusetts.

Flood was attracted to ClearOne's video R&D. "We have identified specific opportunities in the videoconferencing market," said Flood.

The deal also complements its audioconferencing products. The sale includes the rights to ClearOne's portable conference phone line, which Gentner plans to package along with its existing conference calling service to reach a new pool of potential customers.

The audioconferencing, videoconferencing and sound reinforcement markets are expected to grow from approximately \$1.4 billion to more than \$3.4 billion by 2002. Flood said Gentner increased its share in audioconferencing from 9 to 14 percent in one year.

"We hope to continue this trend across the sound reinforcement and videoconferencing environments," she said.



Fran Flood, CEO of Gentner

Gentner has expanded into sound reinforcement with the PA870 power amplifier and the PSR1212 matrix mixer, scheduled to ship this fall.

## New radio products

Is Gentner growing away from the radio market? Flood said no.

"We are in the audio business, and one of the markets that we serve very aggressively is broadcast," she said. Gentner has about 20 engineers and technical employees working on radio devices, with an emphasis on remote control products.

Flood said, "At NAB2000, we announced that we (are) rolling out the new software for our GSC3000, which

See GENTNER, page 15 ▶

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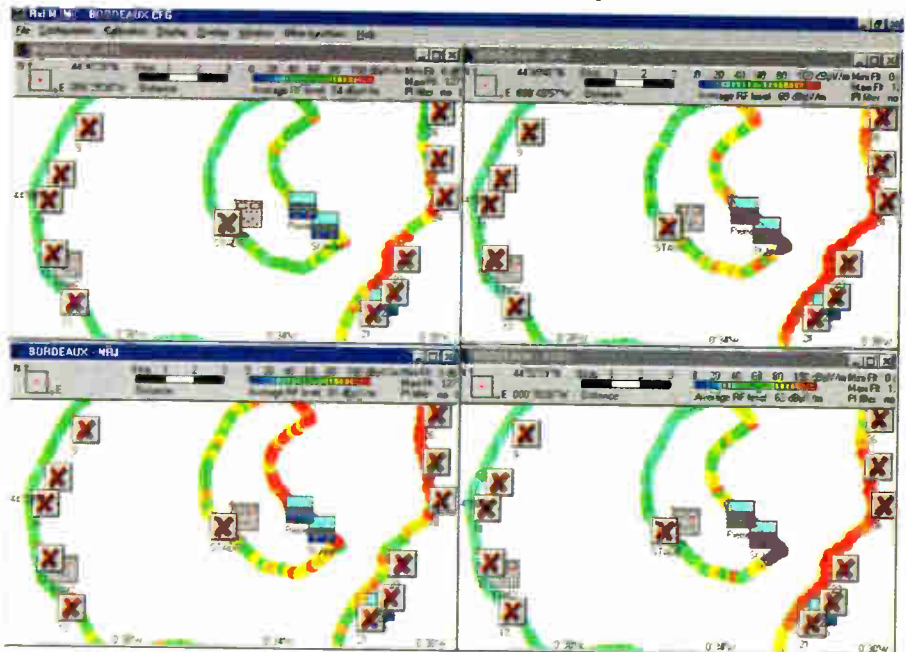
## MARKET PLACE

### Audemat Introduces Lower-Priced Measuring Tools

An award-winning field-strength system from Audemat is now available in a more affordable version.

The Fieldstar mobile RF field-strength measuring unit measures up to 99 stations at once. The unit displays information on maps of the coverage area of all stations received in a target market.

Fieldstar helps stations control FM signal deviation and power to optimize coverage area and reception quality. It lets broadcasters measure and display results of their own analysis and analysis of the competition.



The company said it created the system after demos of its FM-MC-3.2 RF field-strength meter at NAB2000, which won a Cool Stuff Award from RW.

That unit has capabilities that U.S. broadcasters may not use or may already have, such as base-band analysis and audio and modulation analysis.

Fieldstar includes GPS receiver and RDS decoder, automatic measurement of up to 99 stations on a professional FM receiver and an optional cartographic (map) display.

The list price is \$14,000. The company also announced price reductions of 17 percent for its existing products, including the FM-MC3.2. The unit can be configured with Goldenear, a software program that qualifies broadcast reception quality.

For information contact U.S. Sales Representative Dan Rau in Massachusetts at (978) 392-2110 or visit [www.audemat.com](http://www.audemat.com)



# Gentner

► Continued from page 14

has a lot of the features and functions that our end-users asked for. We also announced that we will be rolling out our VRC2500, specifically geared toward the radio community."

The latter is a remote control unit, ideal for single-site stations, replacing the VRC2000.

"We are also now working on the next generation of hybrid products," said Flood, "and we're looking at international compatibility. We want to be more aggressive in that environment. We do have a pipeline of products that are on the drafting table."

Flood said, "The broadcast market represents about 30 percent of our revenue. We're not looking to shy away from broadcast, but in fact (will) try to figure out how to get more share."

"The (radio) revenue quarter-over-quarter has been static," said Flood. "There hasn't been huge or wild growth there. We've just been able to hold steady on the revenue line. But that dynamic can change at the flip of a dime. Radio stations are going through a convergence — all of broadcasting is going through a major convergence — so when things settle down, we anticipate that people will begin buying very aggressively again."

For now, she said, "The largest growth is coming from our multimedia products."

## 19-year history

Gentner Communications went into business in 1981, founded by Russell Gentner. He left in 1997, after the company that bears his name became a larger, publicly traded corporation.

Commenting on its recent performance, he said, "Gentner has become a tremendous stock success because of one major thing: the AP800 acoustic echo canceller. This product grew out of the digital hybrid technology used in Gentner's telephone hybrids. Who would have dreamed that using a DSP hybrid to cancel acoustic echoes would have made Gentner the financial success it is today?"

In retrospect, he said, "The problem with being a small public company is that you grow the business in many different directions to maintain growth in sales and earnings. Eventually, this lack of focus becomes a significant competitive disadvantage."

In 1998, he founded Listen Technologies Corp., a private firm that sells wireless listening devices for assistive listening, tour groups, language, law and medical applications.

"I left Gentner because I wanted to get back to what is truly important in business: focusing on customers, instead of focusing on today's stock price."

Flood makes no apologies for her strategy.

"A company has got to turn a profit," she said. "The corporation is very focused on generating profit and revenue so it can go on to create new products to serve our customers."

Flood was named president of Gentner in December 1997, after working as a sales and marketing director for Ernst & Young. She said her chief goal at Gentner is three-fold.

"We want to take care of our employees and take care of our customers — and through that process we'll take care of our shareholders."

## MARKET PLACE

### Gentner Intros VRC2500, Lynx

Gentner Communications Corp. (see story at left) is out with a replacement for its popular VRC2000 remote control.

The VRC2500 monitors and controls a station's remotely located transmitter sites. It can be programmed to identify and evaluate problems that may arise and take whatever corrective action is necessary. It will communicate the action taken and current site condition to the engineer via phone, pager or data transfer.

While the VRC2500 automatically monitors site conditions, makes power changes and logs data, manual adjustments can be made at any time from any location. With a telephone keypad or PC, the engineer can issue commands and make adjustments. The VRC2500 can respond verbally over the telephone, using a synthesized voice interface, or it

can display conditions on a PC monitor.

The VRC2000 was recently discontinued. The new system is compatible with the VRC2000's accessories.

Gentner also introduced Lynx, a Windows-based software package that improves the functionality of its GSC3000 remote facilities management system.



Lynx enables station engineers to configure, program and access sites on a GSC3000 network more easily. It also lets users pre-schedule tasks such as logging and capturing stored data, printing reports and configuring user-defined jobs. It allows for viewing of historical information from any networked GSC3000 unit.

For information call (800) 945-7730 or visit [www.gentner.com](http://www.gentner.com)

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interface with programmable rotary controls, it is easy to learn and simple to operate. Call the Studer office nearest you for a detailed product booklet or to arrange a private demonstration.

***The On Air 2000 MkII also features:***

- Self-contained, modular architecture (no racks and no fans)
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- Snapshots can be stored on PCM/CIA cards
- A/B select on mic/line/AES inputs (6x1 optional)
- Selectable channel EQ, and output bus limiting

- Built-in clock/timer with ext. sync option
- Version 3.0 software offers up to 6 mix minus feeds (N-1).

***Options include:***

- Telephone hybrid control module
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# Harris Expo to Feature WLW Tour

**Robert Rusk**

Engineers and equipment buyers can mark Oct. 13 on their calendars. That's the date of the 17th annual Broadcast Expo — a free event — at the Harris Broadcast Communications Division's world headquarters in Mason, Ohio.



The exhibit floor at the 1999 event

The day begins at 7:30 a.m. with an early bird session, offering lessons in "practicals" including grounding, safety and RF management, counting toward SBE continuing credits. Registration starts at 7 a.m.

## A Veritable Mic Museum

An added feature at the Harris Expo 2000 is a traveling exhibit from the Bob Paquette Microphone Museum. About 50 of Paquette's more than 1,000 mics will be on display.

"He is extremely knowledgeable on microphone history and evolution," said Dave Burns of Harris. "His collection dates back to the days of Alexander Graham Bell. Most of his microphones are pre-1960."

Paquette's new book, the 820-page "History and Evolution of the Microphone," will be for sale at the show.

## Mic Nirvana

"I quit school when I was 16 and went to work for a commercial sound company (Western Sound & Electric Laboratories)," Paquette, now 70, said. "I became enthused with mics, because in those days whenever a new one came out you had to buy one to try one. That really got me started on microphones."

Paquette remains involved in the sound business as president of Select Sound Service, a commercial studio in Milwaukee. That is where he has the microphones on permanent display.

"There are three rooms with more than 1,000 different makes and models."

"But it is not only mics," Paquette said. "There are a lot of allied pieces. I

New Harris products will be displayed. "We'll be discussing our new 3DX-50," said Dave Burns, studio product manager, Harris Broadcast Division. The 50 kW digital MW transmitter earned an RW "Cool Stuff" Award this spring.

Another "Cool Stuff" Award winner, the Harris Intraplex IntraLink IP Audio

Multiplexer, will be on display.

Of special interest are bus and walking tours of one of North America's most historic radio sites: WLW(AM) nearby.

The station is legendary, and it operated

have boom (microphones), stands, some mixers — and little things like the (NBC Radio) Blue Network (microphone) flag."

Paquette said, "I have collected some mics that are pretty unusual. For example, Western Electric went out of the (broadcasting) business in the 1950s and other companies began vying for the market. From 1950-1955, EV — Electro-Voice — turned out the 18-inch shotgun mic. Then they came out with the seven-foot shotgun mic. They came out with some very unusual mics — the 667, the 668 — where you could tailor the response of the EQ on the back of the mic by moving a pin around."

Indeed, Paquette's mics go back to the days of inventor Alexander Graham Bell. It was in 1876 when Bell received a patent on his new contraption — the telephone.

"I have an exact replica of the 1876 liquid mic," he said. "And I have an 1877, which was the first commercial telephone; it used a transmitter something like an earphone — a metal plate with magnet and coils."

For more than 50 years, Paquette has collected all microphones that have appealed to him.

"I have tried to find every mic I could," he said. "I have EVs, RCA, Shure, Turner — even PA and early television mics."

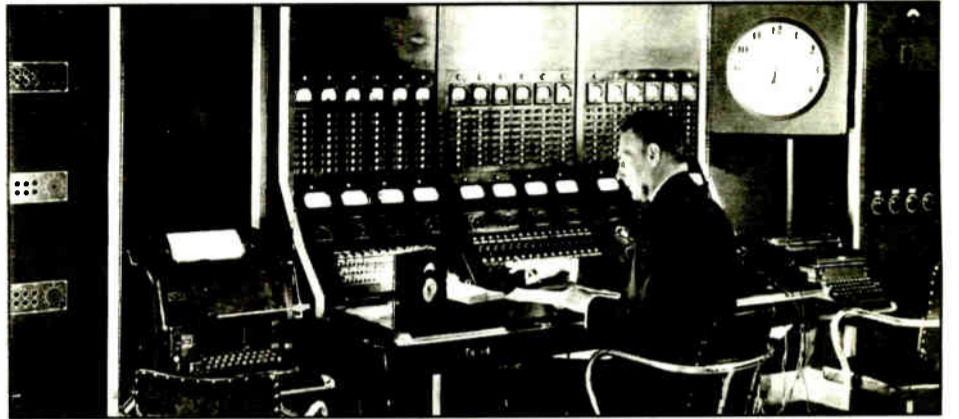
— Bob Rusk

with 500 kW from 1934 to 1939. The first tour bus departs Harris at 8 a.m. and tours continue until 5 p.m. An engineer during the "superpower" years, Clyde Haehnle, will host.

said Sawyer. "Harris endorses Orban products and Orban helps Harris maintain its market-leading position."

Kris Bobo, Comrex director of marketing, said, "The Harris Expo is always a valuable opportunity for close personal contact with customers and sales people."

Burns said the event is open to all broadcast professionals.



That was then: Historic WLW

For a sneak peek, check out the Web site <http://hawkins.pair.com/wlw.shtml>

Some 70 radio and TV equipment vendors will take part in the expo. The exhibit floor hours are 9 a.m. to 5 p.m. Companies on hand will include 360 Systems, Comrex, Orban, Telos and Gentner.

Rick Sawyer, director of worldwide sales for Orban, said, "Harris has traditionally been the largest reseller of Orban products. Our attendance at 'Expo 2000' is one piece in a puzzle that includes the Harris road shows, cooperative advertising, training seminars and more.

"It is a very symbiotic relationship,"

The expo is among several regional Harris events in the past year.

"It has become more and more important to bring the show to the people," said Burns. "With consolidation, fewer and fewer engineers are traveling to major national shows, so we're taking the show to them."



Between 400 and 500 people are expected to attend. This is the second year it will be held at the new Harris facility in Mason, near Cincinnati.

To register, visit the Web at [www.broadcast.harris.com/roadshow](http://www.broadcast.harris.com/roadshow) or call (800) 622-0022 to request a faxed form for registration.

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### MARKET PLACE

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Up to two SP-16 Status Panels can be installed at each ARC-16 studio unit location. The unit includes the required SSI

card and a 5-foot interconnecting cable.

For information contact Burk at (800) 255-8090 or visit [www.burk.com](http://www.burk.com)





**Berger Design Handles KUOW**

University of Washington station KUOW(FM) chose Russ Berger Design Group of Dallas to design a new facility when it moved off campus.

A development agreement with the city of Seattle limited the choice of real estate. "The university picked a building that is actually three separate structures with shared core spaces," said Richard Schrag, project manager for RBDG.

"The big studio allows KUOW to produce programs that require a larger physical or acoustical space, such as musical performances or town hall meetings," Schrag said. "We incorporated an adjacent isolation booth that also serves as a green room."

KUOW, which has an emphasis on local news and provides regional coverage for NPR, needed a large newsroom. Also, the building has few windows. The firm enlarged the windows on the street side and situated the newsroom and per-



KUOW Air Control

"KUOW occupies parts of the second and third floors in two of the structures. There are several other tenants, including a popular game center, generating a lot of noise, which was a concern."

With the KUOW spaces on the upper levels, floating floor systems were required for each acoustically sensitive space. Walls and ceilings were isolated from the structure. The station includes four on-air and production control rooms, a talk studio, three edit booths, two voice-over rooms and a performance studio.

formance studio there.

Skylights were added to other open office areas and conference rooms.

Designers used the building's natural character, sandblasting its brick walls and exposing the overhead structure where possible. The interior design employs incandescent and special fluorescent lights to highlight the station's architectural features.

For information contact Russ Berger Design Group in Texas at (972) 661-5222 or fax (972) 934-3935.

**Interlochen Upgrades Studio**

Interlochen Public Radio recently upgraded its Control Room A with a Panasonic DA-7 digital console and 16 tracks of Tascam DA-78 recording. The room also features Genelec S30C monitors, ProTools editing, Lexicon PCM91 digital reverberator and Sony DAT recorders.

Chief Engineer Jack Conners designed the control room to accommodate multi-track sessions, mixing for live broadcast and CD mastering.



Control Room A at Interlochen

"The DA-7 works great with the Tascam machines. We installed TDIF cards in the console to interface with the DA-78s and an AES/EBU card for the ProTools system. The mic preamps, equalizers and compressors in the console are a match for most outboard gear, and the Lexicon is the hands-down favorite reverb, particularly for our classical recordings."

Audio Designs of Grand Haven, Mich., supplied the equipment. "We were able to put this together for about half the original budget with excellent results," Conners said. "We have a superb system for digital recording, mixing and mastering."

Bont Building Co. supplied custom furniture and the design that put video monitors above the mixing board.

A separate matching cabinet in the back of the room houses a large pullout drawer that holds cables and headphones for the studio.

Across the hall is Studio A. Designed by John Storyk of Walters-Storyk Design Group, it is 550 square feet of "acoustically fine space." A floating oak floor, triple wall construction, and Helmholtz resonators contribute to a warm recording environment. Twenty-four microphone lines and three cue mixes connect to Control Room A. Two smaller studios, B

and C, are available as isolation booths.

For information contact Jack Conners at Interlochen Public Radio at (231) 276-4402 or send e-mail to connersjm@interlochen.k12.mi.us

**American Tower Buys L.A. Broadcast Site**

American Tower Corp. agreed to purchase the Allcom Broadcast Tower Site on Mount Wilson in Los Angeles.

The deal includes the existing Allcom towers and allows for the development of an additional broadcast tower on the site.

Peter Starke, vice president and development for American Tower, said, "For years Mount Wilson has provided television and radio broadcasters with a tremendous technical advantage. We expect our new tower to be the most sought-after

digital television site in Los Angeles."

Separately, American Tower said it acquired the Coltrace Broadcast Tower in Houghton Lakes, Mich. It is the tallest broadcast structure in the area and has an existing tenant base of radio and TV stations and wireless carriers.

The company also began construction on broadcast towers in Columbia, S.C., and Norfolk, Va. The 1,765-foot Columbia tower will serve central South Carolina and will be home for television and radio. In Norfolk, American Tower has closed on the purchase of the existing WHRO-TV broadcast tower and begun construction on a second 1,250-foot tower on the site.

For information call the company in Massachusetts at (617) 375-7500 or visit www.americantower.com

"Who's Buying What" is printed as a service to our readers who are interested in how their peers choose equipment and services. Information above is provided by suppliers except for Interlochen, which was provided by the broadcaster.

Companies with news of unusual or prominent sales should send information and photos to: Radio World Editor, P.O. Box 1214, Falls Church, VA 22041.

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FM100GS	N/A	100WSS	\$ 3,500.00
FM2,500G	3CX800A7	3CX3000A7	\$ 22,995.00
FM4,000G1	3CX800A7	3CX3000A7	\$ 24,995.00
FM4,000G3	3CX800A7	3CX3000A7	\$ 24,795.00
FM4,000GS1	FM500SS	3CX3000A7	\$ 25,995.00
FM4,000GS3	FM500SS	3CX3000A7	\$ 25,795.00
FM5,000G1	3CX800A7	3CX3000A7	\$ 25,995.00
FM5,000G3	3CX800A7	3CX3000A7	\$ 25,795.00
FM5,000GS1	FM500SS	3CX3000A7	\$ 26,995.00
FM5,000GS3	FM500SS	3CX3000A7	\$ 26,795.00
FM8,000GZ1	3CX800A7	3CX6000A7	\$ 26,995.00
FM8,000GZ3	3CX800A7	3CX6000A7	\$ 26,795.00
FM8,000GS1	FM500SS	3CX6000A7	\$ 27,995.00
FM8,000GS3	FM500SS	3CX6000A7	\$ 27,795.00
FM10,000GZ1	3CX800A7	3CX10000A7	\$ 27,995.00
FM10,000GZ3	3CX800A7	3CX10000A7	\$ 27,795.00
FM10,000GS1	FM500SS	3CX10000A7	\$ 28,995.00
FM10,000GS3	FM500SS	3CX10000A7	\$ 28,795.00
FM15,000G1	5CX1500B	3CX10000A7	\$ 28,995.00
FM15,000G3	5CX1500B	3CX10000A7	\$ 28,795.00
FM20,000GZ1	5CX1500B	3CX15000A7	\$ 54,995.00
FM20,000GZ3	5CX1500B	3CX15000A7	\$ 43,995.00
FM25,000G1	5CX1500B	3CX15000A7	\$ 56,995.00
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World Radio History



# Workbench

Radio World, August 16, 2000

## Summertime Grounding Projects

**John Bisset**

One of the biggest hassles for an engineer is keeping his shop organized. Finding tools quickly not only expedites repairs, but lessens the frustration level

as seen in Figure 1.

Not only are the drivers readily available, you can spot a missing driver instantly. For me, having that reminder that a tool is missing from its proper place ensures that it will be found. It's



Fig. 1: Mount tool cases on your workbench to improve shop organization

when things have to be repaired quickly. Randy Kerbaw at WTNJ(FM) in

easy to leave small tools around a studio and a greenie can be deadly in the hands



Fig. 2: Document flags or painted underground cables as provided by Miss Utility

Mount Hope, W.Va., mounted his nut-driver and hex-wrench set by screwing the plastic cases into the workbench shelf

of a wannabe engineer.

★ ★ ★

Summertime construction always keeps the engineer busy. Another good reason to visit your transmitter sites periodically are the possibility of discovering construction projects that you might not know about.

A few years ago, a client station was knocked off the air. When we arrived at the site, we saw that the gas company had trenched across the tower field.

strated this point when a contractor petitioned to build houses next to his 10 kW site.

Morrie not only notified the contractor of potential interference if shielded telephone wire wasn't used, he also notified the zoning board and building permit office. When the builder cut corners, and did not use shielded wire, the homeowners knocked on WANN's door and complained about the station interfering with their phone lines.

They were presented with a copy of the letter. The builder, not Mr. Blum, had to correct the problem. Take a few moments at the outset of the project, and



Fig. 3: Splice satellite cables properly. An electrical tape connection will permit water to spoil the splice eventually.

Where was Miss Utility to mark the appropriate area to dig? When Miss Utility shows up, marking underground lines with paint or flags as seen in Figure 2 is a good idea. Get out your camera to document the lines.

Keep a record of where underground lines traverse. This will help if you must replace transmission lines or a ground system. Place the pictures in a small photo album or file at the transmitter site.

If you see construction adjacent to your property, be proactive. Find out what is going on.

Morris Blum, who ran WANN in Annapolis, Md., since the 1940s, demon-

you may save a fortune later on.

The letter also demonstrated how the station had attempted to look out for its new neighbors.

★ ★ ★

Construction always brings problems.

The cut satellite cable in Figure 3 is just another example. In this case, the satellite cable was strung across the ground and a bush-hog chopped it in half.

Know where your cables run. If you've just taken over a group of stations, take a walk and see where satellite, RPU

See WORKBENCH, page 22 ▶

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MARKET PLACE

Lamp Powers Radio

Vocalux, based in Belgium, offers the new "Lufo" RadioLamp.

This is a hurricane lantern that transforms wasted heat into electricity with a thermoelectrical converter. The electricity is fed to an AM/FM/SW radio receiver embedded in the base of the lamp.

Other devices can be powered as well, including global satellite radio receivers, a small TV set, portable phone and Internet palmtops.

The supplier is positioning Lufo as a marketing tool. President Pedro Monsanto said, "We have the ambition to create a new trend in the charity business."

"Radio, TV and the Internet create multicultural communication areas without borders," said Gabriel Hons-Olivier, GW Industries. "It's a key to democratic access to information and education. It is a useful tool for development and protection of any newborn democracy. Lufo makes possible an ultra-low cost 'broader' broadcasting."



Lufo models, as seen in the photo, have a radio mounted under the tank. Liberty models lack the receiver but provide a jack that will operate any 3 to 6 V DC radio.

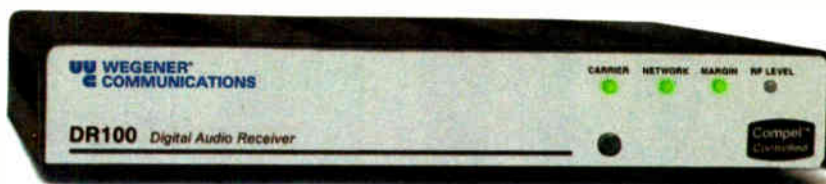
For information contact the company's office in San Diego at (858) 452-0323 or via e-mail to info@vocalux.org

Wegener Introduces Digital Receiver

Wegener Corp. offers the DR100 Digital Audio Receiver, a Single Channel Per Carrier (SCPC) receiver that contains the demodulation, error correction and MPEG decoding circuitry to deliver CD-quality mono, dual mono or stereo program audio channels, together with an auxiliary data stream.

ISO-MPEG compression technology permits high-quality audio transmission

while using satellite transponder bandwidth efficiently. The receiver is controlled by Wegener's Compel or ANCS (Addressable Network Control System).



The DR100 Digital Audio SCPC receiver is suitable for SCPC radio networks that require efficient digital audio

in mono or stereo formats. The SCPC technology allows multiple carriers to access the satellite transponder simultaneously from different locations. This eliminates the need for expensive backhauls for customers who want to transmit their own audio signal.

For more information contact the company in Georgia at (770) 814-4000 or visit the company Web site at www.wegener.com

Workbench

Continued from page 21 or receive antenna cables go.

Burying the cable will guard against lawn-mower damage, but placing the cable in plastic PVC conduit, or the new flexi-conduit, will further protect the cable run. This is the best choice.

A temporary quick fix to get the satellite feed back up is appropriate. Just don't leave it as a permanent fix. Although an electrical tape splice will work for the moment, spend a few extra dollars for a true weatherproofing kit.

Andrew and Cablewave manufacture weatherproofing kits; check with your equipment distributor. You can even pick up weatherproofing compound at Radio Shack. A good weatherproofing kit should be on your shelf anyway. The kits will include material to weatherproof several cables.

If you're digging in an AM field, remember there will be copper radial wires in the ground. Dig carefully; don't break these. If a radial is broken, dig around the edges of the broken wire so each end can be identified. Tag the ends with colored electrical tape for ease of identification. See Figure 4.

Remember that in order to provide an effective bond, ground radials must be silver soldered. Use crocus cloth to clean the ends of the radial until the copper is shining, coat with a silver solder flux and solder with a torch. Hand-held MAP gas torches will make the job easier, because they generate a hotter flame.

\*\*\*

If there is poor ground, what do you do? Installing ground rods is a start.

John Stortz e-mailed to tell us that while he was improving grounding around his site, he was able to get a friendly telco technician to measure the resistance between his ground rods using a Megger. The resistance ranged from 15 to 35 ohms.

John's local power company drives rods, for their own use, to whatever depth it takes to obtain a resistance under 3 ohms. That's the number they consider to be adequate.

In John's case, he was trying to improve grounding at his guy anchor points. After some thorough research, he used 3/4-inch copper-clad ground rods at a depth of 30 feet at each guy anchor point.

The same technique was used at the transmitter building, where a 3-inch interior ground strap was bonded to the ground rod outside. Another rod was used for the utility entrance ground.

So how do you drive 30-foot ground rods?

John and his staff used an electric jackhammer and a tall stepladder. Taking the time to do the job right paid off. Although he couldn't get the Megger back, a Simpson 260 shows less than 2 ohms between the ground rods and the ground system.

John cautioned that care be used in order not to polarize the rod by passing DC current from the VOM's battery. Don't leave the meter on any longer than necessary to get a reading and try reversing the polarity.

While you're measuring, also check for a low value of DC on the ground rod, caused by galvanic action in the soil. This will affect the VOM, if present, and is the reason why ground measurements are not normally taken with a VOM.

Use a cable obtained from the tower

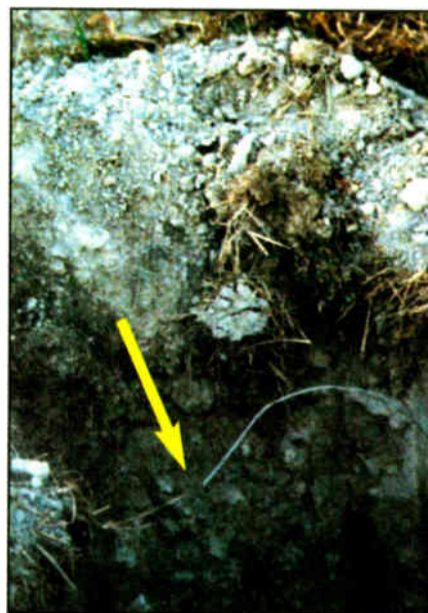


Fig. 4: Identify ground radials so they can be repaired

riggers when attaching grounds to tower guys. John's cable was silver-gray and had a coating to prevent a chemical reaction with the galvanized guy cables.

It's not a good idea to allow bare copper to come in contact with galvanized steel. If you add a little acid (as in acid rain) to a copper-zinc connection, you will have a small, short-circuited battery because the zinc will yield to the copper, destroying the galvanizing on the steel.

■■■

John Bisset has worked as a chief engineer and contract engineer for more than 30 years. He is a district sales manager for Harris Corp. Reach him at (703) 323-8011.

Submissions for this column are encouraged and qualify for SBE recertification credit. Fax your submission to (703) 323-8044, or send e-mail to jhbisset@harris.com

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## SBE NEWS

# SBE Learning Opportunities

*Regional Events Offer Affordable Alternative to Large Industry Trade Shows, Conventions*

**John L. Poray, CAE**

*The author is the executive director of the Society of Broadcast Engineers. Radio World provides this space to the SBE as a service to the industry.*

Keeping up with technology, obviously, is important. For some, as stations continue to desire the latest technological advances and not risk losing a competitive advantage, it's the only way to ensure their employment.

For many broadcast engineers, whether independent contractors or station employees, the time and cost necessary to attend a national conference or convention can be prohibitive. A great alternative is to participate in one of the many regional events presented by local chapters of the Society of Broadcast Engineers.

There are as many as eight regional SBE events held on an annual basis, with six of them between mid-August and the end of October. They range from one to three days. Some are held in conjunction with state broadcast association conventions while others are standalone events.

All offer technical papers, quality equipment exhibits and a chance to share experiences and renew acquaintances with other broadcast engineers. And if you hold a certification from the Society of Broadcast Engineers, you can earn recertification credit by attending qualifying technical sessions.

Registration fees vary from free to \$180. Expensive airfares can be avoided and hotel stays can be minimized because many are less than a day's drive away.

Here's a rundown of the regional SBE events members can find coming up in late summer and early fall this year.

## TAB/SBE

The 47th Annual Texas Association of Broadcasters/SBE Convention and Trade Show in San Antonio, Texas, is taking place this month, Aug. 16-18.

This event is the largest state association-sponsored convention in the country and historically partners with seven SBE chapters in Texas to present a regional convention. SBE members in Oklahoma, Louisiana, Arkansas and New Mexico are also invited.

This three-day event will be held at the San Antonio Convention Center and includes a trade show with 60 exhibitors and one-and-a-half days of technical papers and panels in dual radio and television tracks.

David Ostmo, CSTE, of San Antonio chairs the technical conference. The registration fee for SBE members is \$65 (\$115 after Aug. 1). For more information, visit the TAB Web site at [www.tab.org](http://www.tab.org)

## SBE22

The SBE22 2000 Convention in Verona, N.Y. takes place Sept. 14-15.

Entering its 28th year, the SBE22 2000 Convention is among the oldest SBE events in the country and one of the largest, drawing people from all over the Northeast. SBE Chapter 22 in Syracuse will sponsor this event.

For the second year, the event will be held at Turning Stone Casino in Verona, N.Y., 30 miles east of Syracuse along the New York State Thruway. The convention has expanded to a day and a half, with 100 vendors opening their exhibits at 4 p.m. on Thursday.



Pittsburgh will host the SBE National Meeting as well as the Chapter 20 regional convention this year

Technical papers will be presented from 8 a.m. to 4 p.m. Friday, and exhibit hours Friday will be 8:30 a.m. to 4 p.m. This event is free to broadcast engineers and features lots of prizes and surprises.

The convention chairman is Tom McNicholl, CBTE. To register on-line, go to [www.sbe22.org](http://www.sbe22.org)

## SBE National Meeting

During Oct. 3 and 4, the 2000 SBE Pittsburgh Regional Convention and SBE National Meeting will be held in Warrendale, Pa. SBE Chapter 20 in Pittsburgh sponsors this long-running event.

Both events will be held at the Sheraton Inn Pittsburgh North in Warrendale, Pa., located at the intersection of I-79 and the Pennsylvania Turnpike, 13 miles north of downtown Pittsburgh. Regional convention activities held on Wednesday, Oct. 4, include a trade show from 9 a.m. to 5 p.m. and technical papers beginning at 9 a.m.

The SBE National Meeting events begin with the fall meeting of the Board of Directors on Tuesday evening, Oct. 3. Wednesday begins with the annual Fellows Breakfast followed by an EAS meeting led by national SBE EAS Chairman Clay Freinwald, CPBE, of Seattle.

The Annual Membership Meeting in the afternoon will usher in the newly elected officers and board and will be followed by the Annual SBE National Awards Reception and Dinner. Awards for the SBE Engineer of the Year, Educator of the Year and SBE fellow presentations will be made. All regional and national activities are free to broadcast engineers except the Awards Reception and Dinner, which require a \$10 ticket.

To register or for more information, contact Sandy Riscoe, convention chairperson, at her e-mail address [sandy@the-mediastop.com](mailto:sandy@the-mediastop.com). Tickets for the National Awards Dinner can be reserved through Linda Emerick at the SBE National Office at (317) 253-1640.

## SBE16

The Electronic Equipment Expo, formerly known as Electronic Media Expo, is sponsored by SBE Chapter 16 in Seattle and takes place in Bellevue, Wash., on Oct. 11-12. It is the largest-attended SBE regional event, with more than 2,000 people participating each year.

Approximately 150 exhibitors display products and services at the Meydenbauer Center. Technical papers

are presented each day. Hours are 10 a.m. to 5 p.m. on Wednesday and 10 a.m. to 4 p.m. on Thursday. The event is free to broadcast engineers.

A special seminar is also in the works for Oct. 10, and will require a participation fee. The convention chairman is Earl Fleehart and convention management is provided by TLA. For more information, contact TLA at [Sbeexpo@aol.com](mailto:Sbeexpo@aol.com)

## ABA/SBE

The 48th Arizona Broadcasters Association and SBE Convention will be held in Phoenix, Ariz., on Oct. 12-13.

The Sheraton Crescent Hotel is the site of this two-day convention sponsored by



the Arizona Broadcasters Association and SBE Chapter 9. Exhibits and technical papers are held on Thursday, Oct. 12. Up to 40 exhibitors are expected.

The event is free to broadcast engineers to attend the papers and exhibits. For \$5, you can attend a special breakfast Thursday featuring Chuck Sherman of NAB speaking about the latest advances in audio, video and Internet capabilities.

For more information about this event, contact Gary Grunig, CBTE, SBE Chapter 9 chairman, at [ggrun926@foxinc.com](mailto:ggrun926@foxinc.com)

## Upper Midwest SBE

The 2000 Broadcasters Clinic and Upper Midwest Regional SBE Meeting will be held in Madison, Wis., during Oct. 17-19.

Broadcasters Clinic is an event with a long history and is held each year in Madison. This year, the clinic will be held at the Madison Marriott Hotel West. Radio technical presentations will be presented on Oct. 17 and 18. The television sessions will be presented on Oct. 18 and 19.

A large exhibit area opens up on the afternoon of Oct. 17 and runs through 5 p.m., Oct. 18. The cost is approximately \$155 to \$180, depending on the number of days attended. The fee includes the papers, exhibits and some receptions and meals.

The chairman is Don Borchert. For information about the clinic, contact the Wisconsin Broadcasters Association at [www.wi-broadcasters.org](http://www.wi-broadcasters.org)

There you have it. Mark your calendar, fill the gas tank and head off to the event nearest you. You won't be sorry.

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## WIRED FOR SOUND

# The Attack of the Alien Crosstalk

Steve Lampen

We left our previous column (June 21) talking about conduits, and filling them with different types of cable.

With twisted pairs, the key is balanced. If a twisted-pair is perfectly balanced, it will not radiate its signal nor pick up noise from any other signal.

Many modern devices use "active-balanced differential" circuits. These make such devices considerably cheaper, because transformers, especially high-performance transformers, are not cheap.

Active-balanced devices also have virtually unlimited razor-flat frequency response. So be aware that you are often trading noise or crosstalk in attached cables for flat frequency response.

## Light rail travail

I have heard of more than a few installers who, even with million-dollar recording consoles, will go in and measure the CMRR from each input and output and tweak them for the tightest balance, and therefore lowest noise. Of course, if the differential inputs are

built into high-gain stages of ICs, well, you can't easily go in and adjust them!

In fact, I recently visited a TV station that had run a multipair snake cable 6,000 feet to a local venue. It all worked fine — until they build a light-rail train on that very street. The electrical noise from the arcing of the streetcars could be heard in some of the pairs. They opted to buy transformers, at \$175 each, to try and get rid of the noise. But, with a transformer at each end of a pair, that's \$350 per pair, so they only did a few pairs. What else

could they have done?

Well, I would have checked the source and destination devices. I am assuming they were active-balanced, because they bought transformers to "fix" the problem. Then I would have looked at the schematics of the devices and determined if the active inputs could be "tweaked." It is amazing what can be achieved by just the slightest tweak. Often -20 dB or more of additional noise rejection can be realized.

In other words, the problem wasn't the cable at all. It was the balance of the devices. And, in the face of this huge RF producer, the streetcars, "good enough balance" simply wasn't good enough!

## Bal-to-bal

Balance is the secret behind many "baluns," devices that convert unbalanced lines to balanced, or vice versa, which we've discussed before. But did you know there are also balanced-to-balanced baluns? Sounds like an oxymoron but it's not. These devices "re-balance" a poorly balanced circuit. Some are passive, some are active.

The active ones often are found in circuits that use POTS (plain old telephone service) twisted-pairs to do high-speed (ASDL, XSDL) data into your home. This kind of active-balancing is not cheap. And this should be no surprise. You're trying to make Old Nelly the milk horse, i.e. POTS, into Man o' War the racehorse.

Other balanced-to-balanced baluns are used so that you can send high-quality audio down Category 5 twisted-pairs. If the pairs aren't balanced, these unshielded pairs will pick up noise or radiate noise themselves. These baluns "force" the pair to balance. This is one of the problems with older audio gear. The balance is less than perfect in and out of these devices.

But, with tape machines of the 1950s, a 50 dB signal-to-noise ratio was just dandy, so a box with -50dB of CMRR ("common mode noise rejection") was considered equally acceptable.

In our -90 dB S/N world, those devices just don't cut it. But they look cool in your rack, and in many a recording studio, some tubed battleship from the Dark Ages is lovingly worshiped, and demands a four-figure or even five-figure price tag. If balance on these dinosaurs is a problem, a balanced-to-balanced balun may be the solution.

And balance is a major factor in considering the interaction of different cables when pulled through a single conduit. Even though this effect has been known for a long time, it has only recently been given a name: *alien crosstalk*.

## Lack of standards

The people who do premise/data computer installs are interested in alien crosstalk. Of course, they bundle many unshielded twisted-pair (UTP) cables together.

And they are now running signals of 100 MHz (or up to 350 MHz for some bonded-pair versions), so they're really RF engineers! And that RF can move from cable to cable ... or can it? There is a paper on the subject at the Web site [www.belden.com/products/pwrsumtp.htm](http://www.belden.com/products/pwrsumtp.htm)

Pairs within a cable are *a lot* closer to each other than in the next cable. And even when you get two twisted-pairs, one in each cable, with the exact same twist ratio, and you squosh the cables together with a wire-tie, the worst case for

See CONDUIT COMBOS, page 28 ►



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# Radio Daze

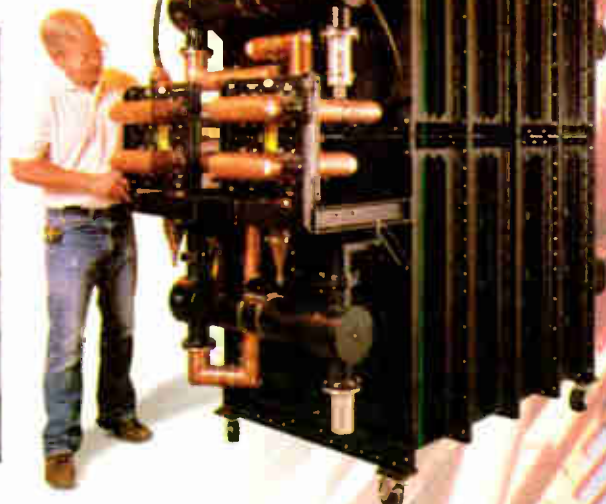
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## Low-Power Radio Opinion Forum

RW welcomes all points of view on the issue of LPFM, in the form of guest commentaries, letters and e-mails. Write to us at [radioworld@imaspub.com](mailto:radioworld@imaspub.com) or use the address on the inside last page.

Dear RW,

I used to be very much in favor of LPFM but now I see that it can have very little practical application outside of a hobby. My change of mind is not due to what NAB thinks or what Congress is trying to do, but to the fact that Webcasting of audio is a more efficient and far-reaching medium.

With LPFM you are limited to a 4- or 5-mile radius if you're lucky, you are shackled with the FCC's red tape and regulations, not to mention the expense of engineering studies and application fees for new LPFM stations. You can't even take paid advertisements. From what I understand, LPFM equipment is not all that cheap either.

In radio, the name of the game is to accrue as many listeners as possible to hear whatever you have to offer. With Webcasting, your audience will not necessarily be local community, but your

reach will be virtually worldwide. In any case, you will probably end up with far more listeners than any LPFM station.

If you've just got to broadcast live, there is streaming audio. If you don't care about broadcasting in real time, you can upload audio files to a server in RealAudio.

**It is just a matter of time before the noncom stations will be getting paid spots, further eroding small-market AM's base of advertisers.**

— Al Campagnone

Frankly, I think that anyone who merely wants an LPFM is selling herself short. What would-be LPFMers should focus on is to establish a strong presence of independent Webcasters on the Internet. The stronger the ranks in this area, the harder it will be for the government to regulate it into submission, and more difficult for "big money" interests to take it over as they have the standard airwaves.

*David Peppers  
Chief Engineer/Program Director  
WLCR(AM)  
Louisville, Ken.*

Dear RW,

The highly intelligent and observant Mr. Frank Vela hit the nail on the head on the issue of LPFM with his letter in your May 24 issue.

The NAB's claim that LPFM will cause harmful interference to full-power stations is so asinine that it isn't even funny. Anyone with half a brain can tell you that even the lowest class of full-power stations is potent enough to override any interference from an LPFM station operating three channels away.

The FCC has determined that an LPFM can safely operate at three channels from a full-power station, and the NAB should have confidence in that ruling.

In relation to this point, Mr. Vela asks the question that I have been asking since this whole thing exploded into controversy: Where and when did the NAB take the position of prominence over the FCC in matters such as these?

The NAB is nothing more than a coalition of people who think they own the radio industry, and the sooner we start ignoring them, the sooner this whole thing will quiet down.

And isn't it interesting that the NAB hasn't let up a bit in its fight against LPFM, even though the service has been restricted to noncommercial use? One of the NAB's cries from the outset was that LPFM stations could cut into the revenue of full-power stations. To pacify the NAB, the FCC ruled that LPFM

would be solely noncommercial, but the NAB still is not happy. Why?

Radio today has all the personality of a three-bean salad, but it has greatly increased profits for the station owners of today. (Notice I didn't call them "broadcasters.")

The stations have no local news and weather, no personality, no localism, no request lines, no regard for the listeners and their needs, and no real purpose, but in many cases, they are the only game in town, so what can you do? This could all change with LPFM.

So, is LPFM really a necessity? Let me answer that question with another question. If radio in its current state was serving its purpose, would the FCC have even had to consider a new service?

*Scott Clem  
President*

*Trident Media and Broadcasting Ltd.  
West Frankfort, Ill.*

Dear RW,

The guest commentary by Larry Langford was right on ("The Last Straw for AM Daytimers?" RW, March 1).

It is just a matter of time before the noncom stations will be getting paid spots, further eroding small-market AM's base of advertisers.

Most owners of stand-alone AM stations are not in this business to get rich. It really has been a labor of love, since the desire was always to better serve the local community and its people, the reason why AM was created in the first place.

*Al Campagnone*

*Owner  
WNRK(AM)  
Newark, Del.*

See LPFM, page 28 ▶

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## Conduit Combos

► Continued from page 24

crosstalk, the numbers are amazingly low.

In the case of data cable (Category 5) the standard is -65 dB alien crosstalk at 1 MHz, and up to -35 dB at 100 MHz. Standard Category 5 and 5e (enhanced) data cables routinely meet these numbers.

However, we audio guys are not dealing with 100 MHz, unless you're putting in a computer network. Most often we're dealing with analog audio (20 Hz to 20 kHz), or more frequently these days with AES/EBU digital audio (up to 24.576 MHz in the updated AES standard). And then there are control applications, such as RS-422 that can go as high as 10 MHz.

There are no standards for "alien crosstalk" at these frequencies. In fact,

no standards exist for pair-to-pair crosstalk or noise for audio in general. There are some *de-facto* standards, but even these are changing.

On the one hand, the old "telco" standard was 60 dB crosstalk or noise. In today's CD world, the noise/crosstalk numbers are more like -90 dB. While there are no specific test data for standard shielded audio cables, UTP computer cables have been measured for crosstalk, even at audio frequencies.

Generic Category 5 UTP pair-to-pair crosstalk runs about -100 dB at 20 kHz. Some bonded-pair Category 5e (enhanced) cables are below measurement (-110 dB crosstalk, below the noise-floor of the network analyzer). Alien crosstalk numbers for enhanced bonded-pair cables are more than 8 dB

beyond the -65 dB required at 1 MHz.

While there are no measurements at 20 kHz, one can assume that the number will only improve as the frequency gets lower and lower. If the pair-to-pair crosstalk is unreadably low, no doubt the alien crosstalk is lower still.

We will finish this discussion of alien crosstalk next time, with a discussion on how, or even if, these alien crosstalk numbers should be applied to analog audio.

■ ■ ■

*Steve Lampen is technology specialist, multimedia products for Belden Electronics Division in San Francisco. His book "Wire, Cable, and Fiber Optics for Video and Audio Engineers" is published by McGraw-Hill.*

*Reach him at shlampen@aol.com*

## LPFM

► Continued from page 27

Dear RW,

Of the many fine letters in the April 26 issue decrying the FCC's capriciousness in its LPFM proposal, all have skirted the major issue about which we should be complaining.

It seems we have lost sight of the fact that LPFM was originally proposed as an attempt to right a wrong perpetrated by the FCC with the Congress' approval — namely, to recreate our original concept of locally owned neighborhood stations inasmuch as the aforesaid recent legislation had doomed the concept to virtual extinction and, for one thing, made it impossible for any "independent" to get into broadcasting.

**Radio today  
has all the personality  
of a three-bean salad.**

— Scott Clem

It is obvious that (FCC Chairman Bill) Kennard and his cronies got cold feet at the last minute. They've reasoned that it would be impossible to effectively counteract the havoc they wrought, so they — in their infinite wisdom once again — decided that they won't even let LPFM commercial broadcasters try.

So, now emerges the concept of non-commercial LPFM ... designed to pander to two groups: (1) fanatics/pirates frantic to promulgate their points of view or to just be able to boast that they are radio station owners; and (2) religious broadcasters who see not only a vehicle to proselytize, but who will be legally able to make non-commercial "commercial" because they get their income from mail-in "contributions" and passing the plate each Sunday.

This is what will be the ultimate effect of the FCC's and the government's infinite wisdom and supposed willingness to right, or at least mitigate, the wrong they perpetrated upon the people. Heaven help us.

Finally, a word about the NAB's protest against the possibility of interference by the LPFMers with the full-power stations. NAB's position was always a smokescreen, a thinly disguised attempt to prevent competition that might mitigate a fraction of the enormous boon that FCC/Congress had recently handed them.

Now that there's no need for NAB members to worry about competition, let's watch their sham opposition quietly fade away just like our local ownership and operation of radio stations has done.

*Oliver Berliner  
Beverly Hills, Calif.*



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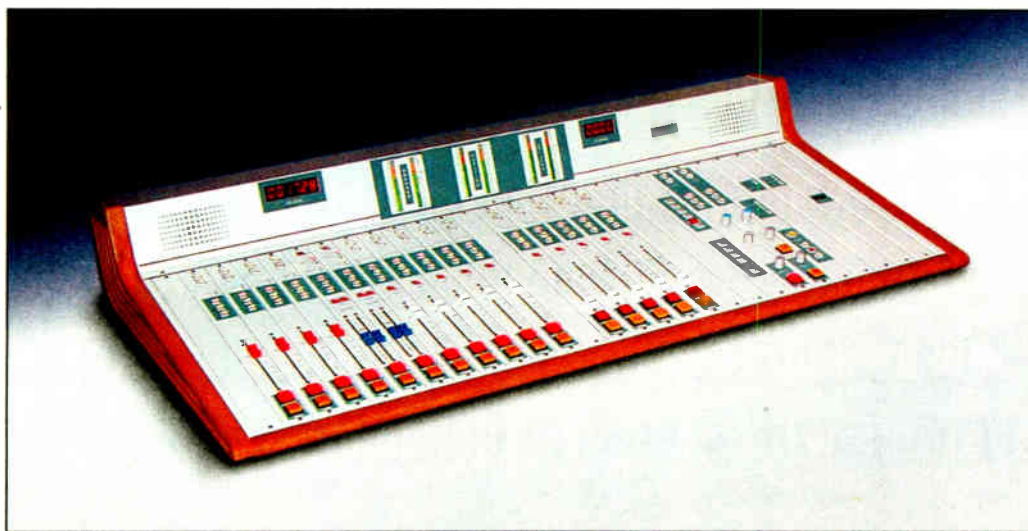
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Is That Judy Jetson?  
See Page 38

Radio World

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MARKET WATCH

## Austin, Texas Is One Hot Market

Steve Sullivan

When one local station manager described Austin, Texas as "hot, hot, hot," he wasn't necessarily referring to the prolonged string of 100-degree days the city suffers through each summer.

Austin is a boomtown. It is the capital of the second most-populous state, governed in absentia by the Republican candidate for president. It is home to one of the largest public universities in the world. It is a growing high-tech hub and one of the most wired cities in the world.

The city proudly boasts that it is the "Live Music Capital of the World," home to an abundance of well-known musicians who can be found playing in any of the numerous venues around town.

All this has helped make Austin one of the fastest-growing cities in the United States. In 1998, the metropolitan population was measured at just over 1.1 million, up from fewer than 850,000 in 1990, according to the U.S. Census Bureau.

While the city ranks 49th in market size, it is 34th in market revenue, according to BIA Financial Network.

There are 28 licensed commercial stations — 17 FM and 11 AM — serving the market. There are six public radio stations, and a fluctuating number of pirate stations operating in and around Austin.

You can find all flavors of rock and country, heavy doses of Spanish-language, Tejano and Christian broadcasts and a smattering of news/talk and sports.

While today's Austin radio dial is crowded, it hasn't always been that way.

### Pie division

Jody Denberg, a native New Yorker, came to Austin via El Paso to work for KLBJ-FM 23 years ago. Denberg, who is program director for KGSR(FM), has seen the local radio market evolve from something of a one-horse town when he first arrived to one that is competitive today.

"When I first got here, KLBJ-FM was the only rock station, and it was left alone as the sole rock station for many years. Then along came a classic rock station, an AAA, a new rock, an alternative and others. So now there are a lot more people vying for the pie."

Denberg doesn't credit Austin's population explosion for initiating the simultaneous explosion of stations in the market.

"I don't think the competition came as a result of the city's growth as much as from the fact that it was an under-radioed market to begin with."

Maybe so. But you can't ignore that as the city has attracted hundreds of thousands of new residents, it has attracted the biggest players in the radio business, while also creating a local radio powerhouse.

Among those looking for their bite of the pie are big boys AMFM (four sta-

tions), Clear Channel (two stations) and Infinity (four stations). Also muscling into the mix is locally owned LBJ-S Broadcasting, owner of five Austin stations, including Denberg's former and current stations.



KUT-FM Producer John Aielli (left) with NPR President Kevin Klose

LBJ-S takes the "LBJ" part of its name from former President Lyndon Baines Johnson, who hailed from this area. However, it is LBJ's widow, Lady Bird Johnson, who owns the group. In 1942, Lady Bird, who still lives near Austin, bought station KTBC(AM), which changed its call letters to KLBJ(AM) in 1973.

Another LBJ — daughter Luci Baines Johnson — serves as the station's CEO. In 1997, LBJ Broadcasting merged with Sinclair Broadcasting to form the five-station LBJ-S Broadcasting group.

Four of the LBJ-S stations posted ratings of 3.7 or better in the winter 2000 book, (12-plus, Monday to Sunday, 6 a.m. to midnight) with KLBJ(AM) taking group honors with a 5.3 (12-plus, Monday to Sunday, 6 a.m. to midnight), placing it fourth overall in the market.

Infinity's local group includes KKMJ-FM, a soft rock station; urban rocker KQBT, which tied for second in the winter 2000 ratings with a 5.4 share (12-plus, Monday to Sunday, 6 a.m. to midnight); alternative rock station KAMX(FM) and urban adult contemporary radio station KJCE(AM).

It's no surprise that AMFM has a strong presence in Austin given that this was the home base of R. Steven Hicks' Capstar Broadcasting. Capstar was a top-10 operator on its own when Chancellor Media bought it in 1999 to form AMFM.

Hicks, now AMFM's vice chairman of the board and the CEO and president of the AMFM New Media Group, still lives in and works from Austin. But he is considered more of a national radio presence than a local one.

However, AMFM's stations are a local force. Pop-country station KASE(FM) is the top-ranked station in terms of audience

and billing. Its winter 2000 rating was 8.6 (12-plus, Monday to Sunday, 6 a.m. to midnight), well ahead of its nearest competitors, sister station KFMK(FM) and Infinity's KQBT, both of which pulled 5.4 ratings (12-plus, Monday to Sunday, 6

### Austin, Texas

Market Rank: 49  
Market Revenue Rank: 34  
Number of FMs: 17  
Number of AMs: 11

#### Estimated Revenue (in \$ 000's):

1996: 49,500  
1997: 56,300  
1998: 64,300  
1999: 78,300  
2000: 89,300

#### Revenue Growth:

'93 - '98: 16.5%  
'99 - '03: 11% (projected)

Local Revenue: 85%  
National Revenue: 15%

1998 Population: 11,103,000

Per Capita Income: \$19,409

Median Income: \$37,873

Average Household Income: \$49,827



Background: Sunset at Lake Austin

KPEZ(FM).

Handling the day-to-day operational issues for Austin's AMFM cluster is Bill LeGrand, station manager and director of sales. LeGrand is a radio veteran who has been in the business since 1961.

When Clear Channel absorbs AMFM's Austin stations upon completion of their pending merger, LeGrand will once again be employed by Clear Channel, for the third time in the past seven years.

He was general manager for San  
See AUSTIN, page 42 ▶

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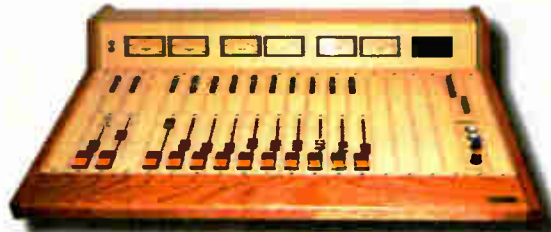
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# Ranks

► Continued from page 1

opportunities to the consolidation of sales, promotions and programming departments and fewer management opportunities as well.

"I wouldn't say that it's horrible just for women. I think it's basically horrible in general for a lot of people in the industry," Cameron said.

Cameron also said management positions have been cut back drastically since consolidation.



Betsy Cameron

"And of course, women were never very well represented in that area and now have less of an opportunity."

Susan Pickering, a media consultant who recently left GlobalMedia.com, said she thinks women have made progress, but there are still obstacles in their path in the radio industry.

"Have we broken the glass ceiling? I think that we've seen it, but the ceiling has been cleaned because I keep bumping my head on it. I know it's still there. I don't see women moving into the power positions in large numbers," Pickering said.

She said that on-air positions are harder than ever to land.

Sales departments, once an excellent entry point for women and racial minori-

ties in radio, also offer fewer opportunities since consolidation, according to many in the industry. Gone are the days when each station had its own sales department.

"Now, instead of having four stations in the market owned by four different companies, they're owned by one and sold by one or, at the most, two sales forces. It certainly has downsized the number of people in the industry," Cameron said.



Susan Pickering

Radio Advertising Bureau President Gary Fries disagreed. Fries said that it's true that every department in radio has experienced staff reductions since consolidation — every department except sales. And women are the top candidates for these growing sales forces, according to Fries.

"So consolidation means that these companies have more resources to put out on the street (in sales forces) and we think this is a big factor in why radio revenues are increasing in such a major way."

The radio industry has recently created programs and funds that aim to increase women's and minorities representation in management and ownership ranks.

NAB announced the first, initially called the Prism Fund, last November. Now named the Quetzal Fund, (after a spectacularly multicolored bird), it began with \$175 million in equity commitments that the fund managers believe would translate into \$1 billion in purchasing power.

The Quetzal Fund's purpose is to help

women and minority broadcasters own and manage radio stations and to make a profit for its investors, who are big radio groups owners. Clear Channel, CBS Corp., Emmis Broadcasting, Infinity, Cox and Radio One are some of the groups that have made investment commitments.

"The NAB has formed a coalition of some of the most influential broadcasters in the country, including Mel Karmazin and Lowry Mays, and created an invest-

ment fund designed to bring not only women but also minorities into the ownership ranks in broadcasting," said Dennis Wharton, senior vice president for Corporate Communications at NAB.

There are also initiatives announced by the NAB's Educational Foundation in January.

The Gateway Fund is targeted to provide training for entry-level broadcast

See RANKS, page 35 ►

## ARBITRON ADOPTS NEW ONLINE METRIC

Arbitron released its February Webcast ratings recently with a new "metric" reporting standard.

"Aggregate Tuning Hours" measures the sum total volume of all hours that listeners tune to a given channel during a given month. Using this measure, a streaming audio Web site, NetRadio, won five out of the six leading slots in the February ratings.

The January No. 1 station, Virgin radio, ranked third in February, behind NetRadio's "Hits Channel" and "'80s Hits" channels. Other stations that ranked at the top of previous Infostream reports fell dramatically in the February ratings.

KPIG.com, which had placed in the top

three slots each month since Arbitron began the Webcast reports last October, placed 16th in the February ratings. TexasRebelRadio.com, in the top five prior to the February report, was number 32 in the latest ratings.

Previously, Arbitron's Infostream service rated Webcast radio by cumulative audience and time spent listening, two metrics that the company is refining to obtain "reliable online estimates," according to Arbitron.

For the full report, visit the Web site [www.Internet.Arbitron.com](http://www.Internet.Arbitron.com)

— Laura Dely

### Arbitron InfoStream Report — February 2000 Top-10 Aggregate Tuning Hours (ATH)

Channel/Format	URL	Internet Services	ATH
1. NetRadio — Hits CHR	<a href="http://www.netradio.com">www.netradio.com</a>	NetRadio	227,600
2. NetRadio — '80s Hits CHR	<a href="http://www.netradio.com">www.netradio.com</a>	NetRadio	215,500
3. Virgin Radio — Hot AC	<a href="http://www.virginradio.co.uk">www.virginradio.co.uk</a>	Ginger Online, PSINet, Akamai, MediaWave	186,200
4. NetRadio — The XAlternative	<a href="http://www.netradio.com">www.netradio.com</a>	NetRadio	169,900
5. NetRadio — Vintage Rock/Classic Rock	<a href="http://www.netradio.com">www.netradio.com</a>	NetRadio	169,300
6. NetRadio — Smooth Jazz	<a href="http://www.netradio.com">www.netradio.com</a>	NetRadio	157,500
7. WJZW-FM/Washington — Smooth Jazz	<a href="http://www.smoothjazz1059.com">www.smoothjazz1059.com</a>	RealBroadcast Networks	103,200
8. Tom Joyner Morning Show — Talk/Personality	<a href="http://www.tomjoyner.com">www.tomjoyner.com</a>	Real Broadcast Networks	93,800
9. WPLJ-FM/New York — Hot AC	<a href="http://www.wplj.com">www.wplj.com</a>	RealBroadcast Networks	93,700
10. KORS-FM/Minneapolis — Classic Rock	<a href="http://www.92kqrs.com">www.92kqrs.com</a>	RealBroadcast Networks	89,800

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**bdi**



# Ranks

► Continued from page 34

industry employees. A second program, the Broadcasters Leadership Training Program, will train underrepresented members of the broadcast industry to join the ranks of ownership.

Even with the creation of special funding dedicated to help women and minorities to achieve station ownership, such as the NAB-led Quetzal Fund, things have not changed, according to Cameron.

"I have yet to get a return call from any of those (Quetzal Fund) people. So far I haven't seen any of these special funds that are allegedly earmarked to help women attain ownership. I haven't seen them really coming into play yet and I'm certainly someone who is actively out there in the acquisition/ownership market."

NAB's Wharton said that there has been "overwhelming" interest from people interested in participating in the fund, which may explain why someone might experience a lack of response to their queries.

But Wharton also said the fund has expended \$42 million since its inception last fall, with plans to fund other initiatives soon.

## Good faith

"Obviously, we think that whatever the numbers are, they could be higher. We think a diverse work force is healthy for local communities," said Wharton. "The Quetzal Fund is a part of that goal."

Although women have made strides in the industry, there are still few in ownership positions. One industry directory of ownership reveals that of the 29 biggest group owners, with more than 2,400 stations between them, only one, Forever Broadcasting Inc., is headed by a woman, Carol Logan. Forever Broadcasting has 39 radio stations across the country.

Long-time talk radio host Tracey Miller, now partnered with Jonathon Brandmeier on KLSX(FM) in Los Angeles and WCKG(FM) in Chicago, said things are not much better than when she started out in 1980.

"I was certainly a novelty. The only difference now is that there are more women who do it, particularly talk radio, but there are still very few women who are getting hired. It doesn't help when so few people control so many radio stations."

Miller believes that syndication is also taking a bite out of the available radio job market. "Now you have groups that have the same personalities on them nationwide so there are fewer slots available."

The discrepancy in salaries for men and women remains significant throughout every demographic, in all industries, according to a recent study by Interep Research. The average salary for all men was \$26,492 per annum while the average salary earned by all women was \$14,430, according to Interep.

Miller said it's easy to see the difference in radio.

"I was thinking of all the millionaire men I've worked with in radio and then I tried to think of all the millionaire women I've known. I guess Laura Schlessinger would have to be the only one I can think of who makes that kind of money, who can command that kind of salary. If you look at it that way, you'll see that women haven't been making very big strides."

Ray Bradford, equal employment

opportunities director for the American Federation of Television and Radio Artists, agrees that there is disparity in employment opportunities. Bradford also sees a disparity in how much women and minorities earn.

Bradford said that looking back over the last 20 years, initially there was an increase in women and minorities hires, but now it has changed. "It's as if we've turned back the clock," Bradford said.

AFTRA recently commissioned a members' salary survey comparing 1998 salaries within several demographics. Although the survey will not be officially released to the media, copies have been



David Earl Honig

leaked to various news organizations.

The survey reveals disparity between women and men in terms of salary. Bradford said the survey was commissioned in part to prove there is a problem beyond anecdotal evidence and to help provide ammunition to fight the problem.

The survey compares both the salaries of different positions in radio and television and also the ethnic and gender distribution for these positions.

Looking at the nation's top-three radio markets, the AFTRA survey shows a disparity not only between men and women in terms of pay scale, but also among ethnic groups.

Consider the ranges of up to \$50,000 per year and over \$100,000 per year for comparison.

In New York, the No. 1 market, 40 percent of the female respondents make less than \$50,000, while 36 percent of the male respondents fall into that salary range. The disparity grows as one goes up the salary scale, with 22 percent of the women making more than \$100,000, compared to 30 percent of the men.

Breaking it down by ethnicity, 36 percent of the white respondents made less than \$50,000 in 1998, while 63 percent of the black respondents and 36 percent of Hispanics fell into that category.

The differences in percentages for ethnic groups making over \$100,000 are striking, with 31 percent of the white respondents in New York City reporting that they earned more than \$100,000 per year, while just 9 percent of black respondents and 18 percent of Hispanic respondents reported they were in this salary range.

The picture is similar in all other cities included in the AFTRA survey: Los Angeles, Chicago, San Francisco and Philadelphia.

AFTRA has no hard numbers on the ratio of men to women employed in the radio industry, a fact that makes Bradford's job more difficult, Bradford said.

NAB's Wharton also has no hard numbers.

"We don't track or compile statistics

on women in radio. I know anecdotally of quite a few success stories out there, but we don't track how many women general managers there are in the business and things like that."

Wharton said NAB has general figures on the broadcast industry and the number of women in the business is actually up, particularly in television.

"The number of women general managers has increased dramatically in the last year or two," Wharton said.

Wharton's statement is borne out in part by the 2000 Women and Minorities Survey released in June by the Radio-Television News Directors Association.

The RTNDA survey shows gains for minorities and women in television, particularly for news directors. The study shows that women make up 40 percent of the television work force and 35 percent of the overall radio work force.

While women may be making gains in the broadcast industry overall, they aren't necessarily holding down the top positions. According to the RTNDA study, 87 percent of the general managers in radio were men. The study also noted that women were twice as likely as men to hold the general manager position in small markets.

## Influential women

The gender gap at the management level is cause for concern for those few women who have made it to the management level. Fourteen of those "most influential women" have banded together to form a group committed to helping women further their careers in the broadcast industry.

According to a recent analysis by the MIW, only 10 percent of all program directors in the top-100 markets are women. Only 13 percent of those stations have general managers who are women, and women, according to the MIW analysis, hold only 25 percent of sales management positions.

And in the MIW analysis, 32 percent of sales management positions were held by women in 1995, one year before consolidation began with the passage of the new Telecommunications Act in 1996.

Joan Gerberding, president of Nassau Broadcasting's Jersey RADIO Network division, spoke for the group, citing the MIW analysis.

"It appears that the current (male) leaders in radio perceive women as being very capable of bringing the money in, but not of managing the personnel or the P & L. We clearly have some work to do."

The "MIW" agenda includes plans to implement a mentoring program for women to help them reach management positions in the industry.

"We'd like to make it available to broadcasting companies. We felt that this would be a way for them to fulfill (EEO) require-



Joan Gerberding

ments and at the same time help women."

The FCC reinstated revised Equal Employment Opportunity rules in a January 2000 decision, following a 1997 Supreme Court decision that banned the agency from collecting gender and racial demographic information.

The FCC now requires that broadcasters report that they have made a sufficient effort to disseminate job opportunity information. (RW March 29, "A Primer on the New EEO Rules")

The lack of concrete evidence makes it difficult for unions, minority groups and reporters to substantiate the anecdotal evidence that claims that there are differences in the numbers of men and women being hired by radio stations.

David Earl Honig, executive director of the Minority Media and Telecommunications Council, said the FCC's hands are tied when it comes to counting media company's staff members by gender and ethnicity.

"In the employment area, the FCC has been prohibited since 1997 from even keeping industry-wide employment stats by race and gender. They have proposed to bring back those forms, but the matter is pending in the District of Columbia Circuit Court now, petitioned by the state broadcasters associations who say that even enumerating minorities and women is unconstitutional as is requiring recruitment of them."

Honig believes that there are threats to women within the industry because of consolidation.

"Since consolidation began, the number of employees (in the radio industry) has dropped by 4 or 5 percent," Honig said. "In every industry," said Honig, women and minorities are "last-hired, first-fired."

AFTRA's Bradford is optimistic for the future of diversity in the broadcast industry. "I believe broadcasters want to achieve diversity," he said, but added that he believes that it will take more than just a desire to create a diversified workplace.

"We believe that goodwill just isn't enough. Historically, no civil rights advances have come solely from goodwill. We need legislation."

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## NEWS MAKER

# Radio Days With Judy Muller

Peter King

Award-winning journalist Judy Muller has been a correspondent since 1990 for ABC News, where she reports for "World News Tonight with Peter Jennings," "Nightline," "20/20" and other ABC News broadcasts. She also provides occasional commentary for NPR's "Morning Edition."

In a previous life, Judy Muller worked primarily in radio and loved it. She began her radio career at WHWH(AM) in Princeton, N.J., in 1975, moved to KHOW(AM), Denver, in 1978, then was hired by CBS News Radio in New York. She wrote, reported and anchored for nine years.

Many stories about her radio days are recounted in her recent book, "Now This: Radio, Television ... and The Real World," (G.P. Putnam and Sons, 211 pages, \$23.95).

CBS News Radio reporter and frequent *RW* contributor Peter King recently spoke with Muller about her time in radio and her love for the medium.

*RW:* How did you first get hired at CBS Radio?

*Muller:* I was working in Denver (at KHOW(AM)), divorced, with two kids and didn't have enough money to support them really, so I sent a tape and résumé

off to WCBS New York.

Unbeknownst to me, they did not have any openings. But they had sent my tape on to the network because they thought it was, apparently, worthy of consideration over there.

The call I got back was from the Vice President of CBS News Radio, Joe Dembo, who said, "I'm the vice president

**'When I came to CBS Radio, I was seated at a desk between Richard C. Hottelet, Dallas Townsend and Douglas Edwards.'**

of CBS News Radio, and I said, 'Yeah, sure, right, who is this, really?'

"He had a voice like God, and I'm thinking, 'Somebody's pulling a fast one on me.' But sure enough, they wanted to audition me, so I flew there, took a writing test, an audio test, and two weeks later, I had this dream job.

*RW:* You began as an anchor and writer?

*Muller:* Yes, and I did the graveyard shift for about a year, which was hell, but everybody in radio who starts out usually

starts in a horrible shift, then works to the really prime shift, which starts at 4 a.m. That's when you know you've made it!

I was given my own commentary broadcast after I'd filled in for Charlie Osgood and the reception was good. It aired at 6:30 a.m. nationwide and was called "First Line Report" (1982). It had about 3 million listeners a day, which was really a great deal.

I did it for a lot of years.

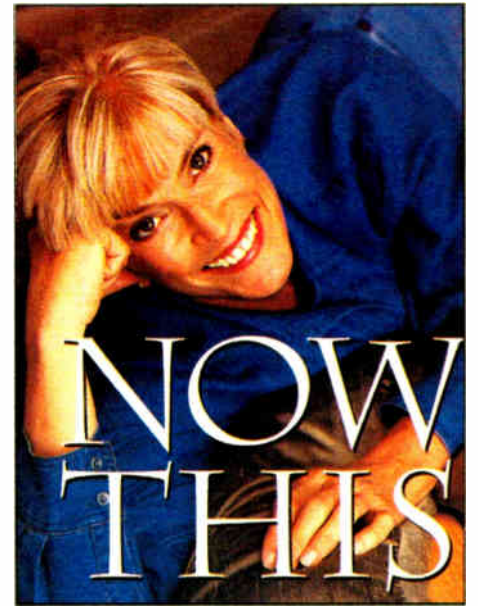
*RW:* And you woke up a lot of people at the crack of dawn!

*Muller:* "First Line Report" was supposed to be pegged to a breaking news story, which made the deadline rather difficult, since we had to be on air at 6:30 a.m. I would come in, my producer would have picked out some really good stories that were really sort of pithy commentary, but they often involved calling people up.

This is before people had answering machines, so people actually answered their phones when they rang at 5:30 in the morning. This was the hardest part of the job!

But we were almost always lucky. From Desmond Tutu to Jesse Jackson to Senator Alan Simpson, people would grouse a little bit, but go ahead and give us great interviews.

I once remember Alan Simpson saying, "Oh no, it's Judy Muller and the Dawn Patrol," but he liked being on a show that had three million listeners every morning.



Then, of course, people got answering machines, so you can't do that today; nobody would answer the phone.

*RW:* Who were some of the people who were your mentors at CBS Radio? And the veterans with whom you worked side by side?

*Muller:* When I came to CBS Radio, I was seated at a desk between Richard C. Hottelet (CBS News correspondent from 1944 to 1985), who had been one of Murrow's Boys — you know, he had airdropped into Burma and reported from there during the war (World War II) — and, there was Dallas Townsend (CBS News correspondent from 1941 to 1985), who had been doing the news there for so many years, and Douglas Edwards (CBS News correspondent, 1942 to 1988), who was really the first television anchor, even before Cronkite — he was still there, doing radio.

I sat there among these legends, thinking, "Somebody's made a huge mistake here! They're going to figure this out and come get me at any moment."

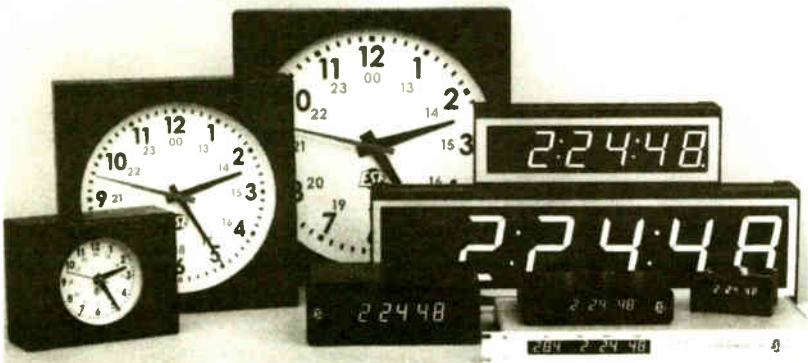
We all recognize this as the "Impostor Syndrome" when we first stop in a good job.

See MULLER, page 39 ▶

"Remember that time is money."

— Benjamin Franklin

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# Waldo: Cartoons and CART

Robert Rusk

Fans of old-time radio will be glad to know that Corliss Archer, or more accurately actress Janet Waldo, who played the title character in the classic CBS Radio show "Meet Corliss Archer," is alive and well, and continues to work in radio.

Legendary crooner Bing Crosby, who was born in nearby Tacoma, Wash., brought Waldo to Hollywood fresh from Roosevelt High School in Seattle.

"I began acting in school plays. I was always interested in drama and wanted to be a Broadway actress," said Waldo, who still has the same perky, animated voice that made her a radio star.

Waldo politely declined to reveal her age. "I was in radio before I was born and I was born pregnant!"

She said, "Actually, I was in radio when I was very young — but obviously I'm not 15 anymore."

## Radio maven

"I wasn't the type to do films — I was called the little girl with the little voice — but I got into radio right away. Very shortly after my mother and I came down here, I was cast in 'Meet Corliss Archer.'"

"Archer," a situation comedy about a teenage girl and her "typical" family, debuted on the CBS Radio Network in 1943. Waldo played the part until the show went off the air in 1956 — and was before the mic virtually the entire time.

"Actually that was just 10 years, not 13," said Waldo. "The reason I say I did 'Meet Corliss Archer' for 10 years is because we stopped and started production. We would be on, then we would be off for a while. So when I talk about doing the show for 10 years, I'm referring to the actual time we were on the air."

She said, "My husband (writer Robert E. Lee) and I bet which of us would have the last show on radio. He wrote 'The

Railroad Hour' (an NBC music and drama show that starred singer Gordon MacRae). That show lasted until 1954 — so I won."

To set trivia buffs straight, Waldo was not the first performer to play Corliss Archer. That distinction goes to actress Priscilla Lyon — who held the role for just the first six weeks the show was on the air.



Janet Waldo as Corliss Archer and co-star Sam Edwards as Dexter Franklin in the early 1950s

"The producers decided that they wanted to go a different route, and although she was a good actress, she had a rather flat, dry sense of humor," Waldo said.

"Being very animated, I was more the way they felt Corliss should be. I'm so glad, because I played it for a lot of years."

One other actress — Lugene Sanders — took on the title role during the show's long and successful run.

"I became pregnant twice while I was doing 'Meet Corliss Archer,'" said Waldo. "So she played the character for two weeks, each time I had a baby."

Waldo said, "It just amazes me how many people remember the show after all

these years. It began over 50 years ago."

One reason she thinks that's the case is that radio listeners use their minds to imagine what characters should look like.

"Performers can look however you want them to look. That's so great, because very often in radio the actors don't look anything like the parts they play."

Waldo said, "Another wonderful thing about radio back then was that you had the chance to do so many types of things. You learned a lot about timing and had an opportunity to do a variety of roles. In television, you always play characters that you look like."

As an example, Waldo remembered doing an adaptation of the novel "Wuthering Heights" on the radio anthology series "Favorite Story." She and actor William Conrad were cast in the leading roles, Cathy and Heathcliff.

Conrad remains best known to radio audiences as Matt Dillon, the tough-speaking and deep-voiced U.S. marshal on the CBS Radio show "Gunsmoke."

Although much later he was the narrator on TV shows including the classic 1960s drama series "The Fugitive," he starred as the rotund, balding P.I. in the 1970s detective series "Cannon" — just the opposite of the thin and handsome Matt Dillon listeners imagined when they listened to "Gunsmoke."

## TV work

Around 1951, Waldo guest-starred on one of the last episodes of Lucille Ball's CBS Radio show "My Favorite Husband" — in which Ball perfected many of the mannerisms she would later use on television. Ball began her TV career in late 1951 on the classic CBS sitcom "I Love Lucy."

Waldo appeared on the 20th episode of the TV series, titled "The Young Fans," and played the love-sick bobby-soxer, Peggy Dawson, who had a crush on Lucy's husband, Ricky Ricardo, played by Desi Arnaz.

She later became a star on TV — but her face was never seen on screen. Waldo's claim to fame was as the voice of cartoon characters. The first character for which she performed the voice was Judy Jetson, on the prime-time Hanna-Barbera cartoon "The Jetsons."

She followed this by providing the voices for such 1960s and '70s Saturday-morning cartoon characters as Josie in "Josie and the Pussycats" and Penelope in "The Perils of Penelope Pitstop."

The narrator on "Penelope" was Gary Owens, whose legendary voice can still be heard on the syndicated adult standards format "The Music of Your Life."

Owens said, "Janet is such a talented lady. She is so perky and wonderful, and always filled with joy. We are very good friends."

Waldo is not impressed with much of what she hears on radio today, and shoots a verbal arrow at the blue-mouthed Howard Stern.

"I think that Stern should be drowned," she said. "I think what's happening to radio is a shame. And I can't stand most of the talk show hosts and



Waldo and some of the characters she has voiced

their programs. They are so discouraging.

"It's very sad that this wonderful medium, which has such potential to delve into people's minds and stimulate their imaginations, has become so damaged by no-talents such as Stern — and even Dr. Laura Schlessinger. I don't understand why people talk to her. She's so mean. I don't understand that at all."

One personality that Waldo does like is Bob Brinker, who hosts the ABC Radio Networks weekend show "Moneytalk."

"I think he's so informative. I know nothing about the stock market and am fascinated by it and learn a lot from him," Waldo said.

"But there's very little drama on the air today here in the Los Angeles area."

One station that stands out, she said, is CBS-owned KNX(AM), which runs "The Drama Hour" each night. Rebroadcasts of classic shows such as "Lux Radio Theatre," "The Whistler" and "Gunsmoke" are aired. These shows can be heard worldwide on the KNX Web site ([www.knx1070.com](http://www.knx1070.com)).

Waldo has returned to her radio roots as a member of CART — the non-profit California Artists Radio Theatre — which twice a month performs and records recreations of radio shows before live audiences in the elegant Cinegrill Showroom at the Roosevelt Hotel in Hollywood, across the boulevard from the Chinese Theatre.

"Numbers of CART productions have been distributed over the years on National Public Radio's 'NPR Playhouse,'" said Andy Trudeau, senior producer of NPR cultural programming. "There have also been a couple of stand-alone holiday specials outside of 'Playhouse.' Last year we ran a CART Christmas program."

Waldo said of her involvement with CART, "Anyone who's been in radio always wants to keep doing it. I recently did an adaptation of 'Little Women.' I played Amy and Nancy Cartwright played Beth."

Of her original role as Corliss Archer, Waldo said with a chuckle, "I don't even like to think about it — it was so long ago. But yet I do like to think about it — because I had such a wonderful time back then on radio."

■■■

Bob Rusk is a frequent contributor. Among his recent stories for RW was a profile of Lyle Henry of the National Association of Gay & Lesbian Broadcasters.

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# Muller

► Continued from page 36

**RW:** Did the vets look at it that way or were they helpful to you?

**Muller:** I don't think I really expressed how insecure I was, at least not out loud, but they were incredibly helpful. These were very secure people, why wouldn't they be? Very secure people tend to reach out and help others. They (were) not threatened and they were wonderful to me. They couldn't have been warmer or more welcoming. It certainly helped ease the way.

**RW:** Tell me about your NPR work.

**Muller:** When I went to work for ABC-TV, I really worried about losing my foot in radio. I love radio and it's my favorite medium. I figure my voice will be the last thing to go, so you don't want to give up that job.

I called NPR and asked if they would like an occasional commentary for "Morning Edition," and they said, "Sure." I went to ABC, they thought about it and said, "Sure, as long as you're not commenting on stories you're covering," which, of course is absolutely right.

I've been doing it ever since, about once a month, since my schedule on TV has gotten so busy.

**RW:** Do you do those commentaries from wherever you are, by phone, or do you have ISDN at home?

**Muller:** Oh, I'd love to have that. Cokie (NPR and ABC's Cokie Roberts) gets that deal (laughter). I always go over to the NPR bureau here in Los Angeles or wherever I am.

**RW:** Much of your book deals with the travails of being a single mom in the news business. Recently, on NBC's "Today Show," Matt Lauer said, "Ann Curry is here for Katie (Couric), who's off this half hour doing the 'mom thing,' attending her daughter's recital." I thought of you immediately.

**Muller:** Wow! Times have changed!

**RW:** In your book, you write about being a single mom at a time when it wasn't really looked upon favorably in this business.

**Muller:** Well of course with morning radio, it was probably the best job you could have in broadcasting and still raise kids, because you were at least home by noon. I would have a nanny get them off to school in the morning, so I'd often be quite surprised by what they were wearing by the time I got home. Some pretty interesting outfits there!

When I'd field these calls from my kids at work, it was, of course, just before deadline — they have an uncanny knack for that. I noticed that very rarely did men in the office get these calls, except for one fellow. He's a great guy, a great father, also a single parent, who got a call one morning from the school nurse saying (his) son was sick, and could (he) go pick him up and with great fanfare, he stands up and says "I'm sorry, somebody else will have to do this newscast, I have to go pick up my son," he gathers up his belongings and strides out of the newsroom. He didn't even ask for permission, he just went.

It was the reaction of the people in the room that stunned me, the women going, "Oh, isn't he wonderful. What a great dad!" Of course, somebody had to pick up his newscast — I think it was me.

The odd thing is if that had been me (who'd left), it would have been a completely different reaction. It would have been, "You see what happens when you hire a woman with little kids at home?"

breaking news will take its toll after a while. Documentaries would be fun, if you can find an outlet for them. And radio, because you can do radio now from almost anywhere. I'd like to write another book.

## You know you've made it in radio when your shift starts at 4 a.m.

— Judy Muller

It really was a double standard, but I think that's changing.

**RW:** Do you want to do more radio?

**Muller:** I want to combine all the things I love ... do longer TV pieces, because

**RW:** If you could speak directly to radio managers about radio news, what would you tell them?

**Muller:** I would plead with them to keep a commitment to real local news, not just the rip-and-read, but to reporters

### Judy Muller's Radio Résumé

1975	WHWH(AM)	Princeton, N.J.
1978	KHOW(AM)	Denver
1981-1990	CBS Radio	New York

who cover the community, because if there's one thing radio does especially well, it's to report on what's happening at the local level in a way that perhaps television has failed to do.

I think radio has a real role in that area, and it takes a brave program director or station manager or news director to say, "We need a couple of (full-time) reporters, not just people who rip and read, but people who actually go out, get to know the community and report on it."

I'd like to see more of that.

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# 2000's Political Rules Clarified

**Ken R.**

When the political conventions are over, the political ad campaigns begin in earnest.

The good news is that radio stations likely will see a higher seasonal demand for commercial time, if other presidential election years are any indication. The bad news is that broadcasters are unsure about what they can charge and what the candidates can demand from them.

"Some of the FCC regulations on political advertising are rather counter-intuitive," said Jack Goodman, senior vice president, general counsel at the NAB. "Many broadcasters are justifiably confused."

Arthur B. Goodkind, partner in the Washington law firm Holland & Knight said that stations are not allowed to censor or reject any political spot containing a candidate's identifiable voice once the station has agreed to carry it.

However, Goodkind said that even if the candidate libels his opponent in a blatant fashion, the station is not liable for damages. But if the spot is paid for by a third party, a so-called "soft money" ad, a station can be liable for false or damaging statements, Goodkind said.

"Just remember that if a candidate's voice is on the spot, then the candidate is liable, you don't have to worry. But if the candidate isn't (heard) on the spot, then the station is liable," he said.

## Reasonable access

"There's a lot of confusion about the term 'reasonable access,'" said David Oxenford, partner in another Washington law firm, Shaw Pittman.

"First of all, you're only required to grant reasonable access to federal candidates. Local and state candidates are left to your discretion," said Oxenford.

Oxenford said stations are encouraged to determine what constitutes "reasonable access" based on several factors, such as

how many candidates are running for a given office and how soon before the election the requests are made.

## Make policy now

Goodman stressed the need to make public a firm, consistent written station policy for political advertising that would include specifics on "lowest unit rate," "reasonable access" and other touchy points.

## Some of the FCC regulations on political advertising are rather counter-intuitive.

"Keep in mind," said Goodman, "that you can't just send out your rate card. There are many other factors."

Robert Branson, vice president and chief legal counsel for Post Newsweek, described what must be disclosed to candidates.

"You should explain the parameters of each daypart, your policy on make-goods and the details of the lowest unit charge in each category of time you sell," said Branson.

"It would also be a good idea to define your stance on pre-emption. Do you preempt based on 'last in, first out,' 'random' or some other method?"

Oxenford said that these lowest unit rates only apply to candidates, not issue ads. Stations may wish to offer several levels of pre-emption according to Oxenford.

"If you have one class of spots which will run about 90 percent of the time for a premium and another class that will run 10 percent of the time for a lower price, let the candidates know that. Candidates

might complain if you don't observe levels of pre-emption uniformly."

Goodkind said that "lowest unit" rules only apply 45 days before a primary election and 60 days prior to a general election.

"However, you can have separate unit charges for each election," said Goodkind.

"Once a candidate makes an appearance on your station, management is



Scott Harshbarger

offered if requested by the opposition."

Exemptions to this rule include newscasts, debates and press conferences that are not controlled by the candidates. Goodman said that if a candidate's voice and name are used in a public service announcement, this could trigger an equal opportunity request.

"It's unclear what you must do if a candidate wants to purchase time just prior to the election. If you are sold out and it's two days before the election, there may be nothing you can do," Goodkind said.

See RULES, page 45 ▶

— Jack Goodman

required to provide an equal opportunity to opposing candidates," said Goodkind.

"If it was a paid spot, the other candidate must be able to buy similar air time at a similar price. If it was a free appearance, a similar opportunity must be

## Free On-Air Political Time Requested

At the National Association of Broadcasters' "Service to America" awards ceremony this summer, former President Jimmy Carter appealed to broadcasters to open their airwaves to free political discourse.

"A few months ago, my good friend Gerald Ford and I joined with Walter Cronkite, one of you, in calling for the radio and television stations of America to set aside every evening, just for 30 days before Election Day, just five minutes," Carter said.

"Not for TV ads, but for interviews and statements and analyses so that the American people can see the positive side of the political system



Former President Jimmy Carter advocates for 'just five minutes' at the NAB Service to America Awards Luncheon in July

Shelley also said that his news department looks at some of the hot-button issues and provides coverage of

## Stations have been given their broadcast spectrum at no cost.

— Matt Farrey

that we love."

WTMJ(AM) News Director Dan Shelley said that broadcasters don't give free time to politicians for advertising.

"But we do, in the normal course of business, provide comprehensive coverage of candidates, including live appearances in our market. If Al (Gore) or George (W. Bush) called up and said 'we'd like to stop by,' we would feel their appearance would be a supremely newsworthy event," Shelley said.

those topics he feels would most interest the Milwaukee citizens, WTMJ's home market.

"When we put a candidate on a talk show and get a request for equal time, we see this as not just a requirement. It's a serious obligation and we do our best to make that time available," said Shelley.

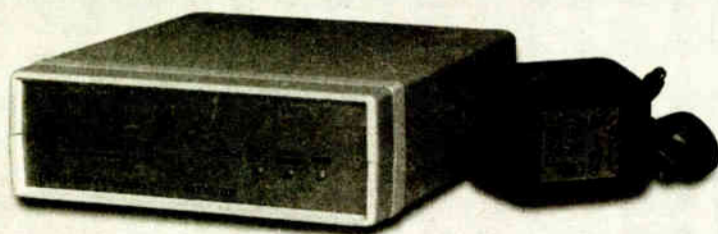
"The decision to give free commercial airtime would be made above my Journal Communications pay grade."

"The Communications Act of 1934 demands that licensees use the airwaves

See FREE TIME, page 45 ▶

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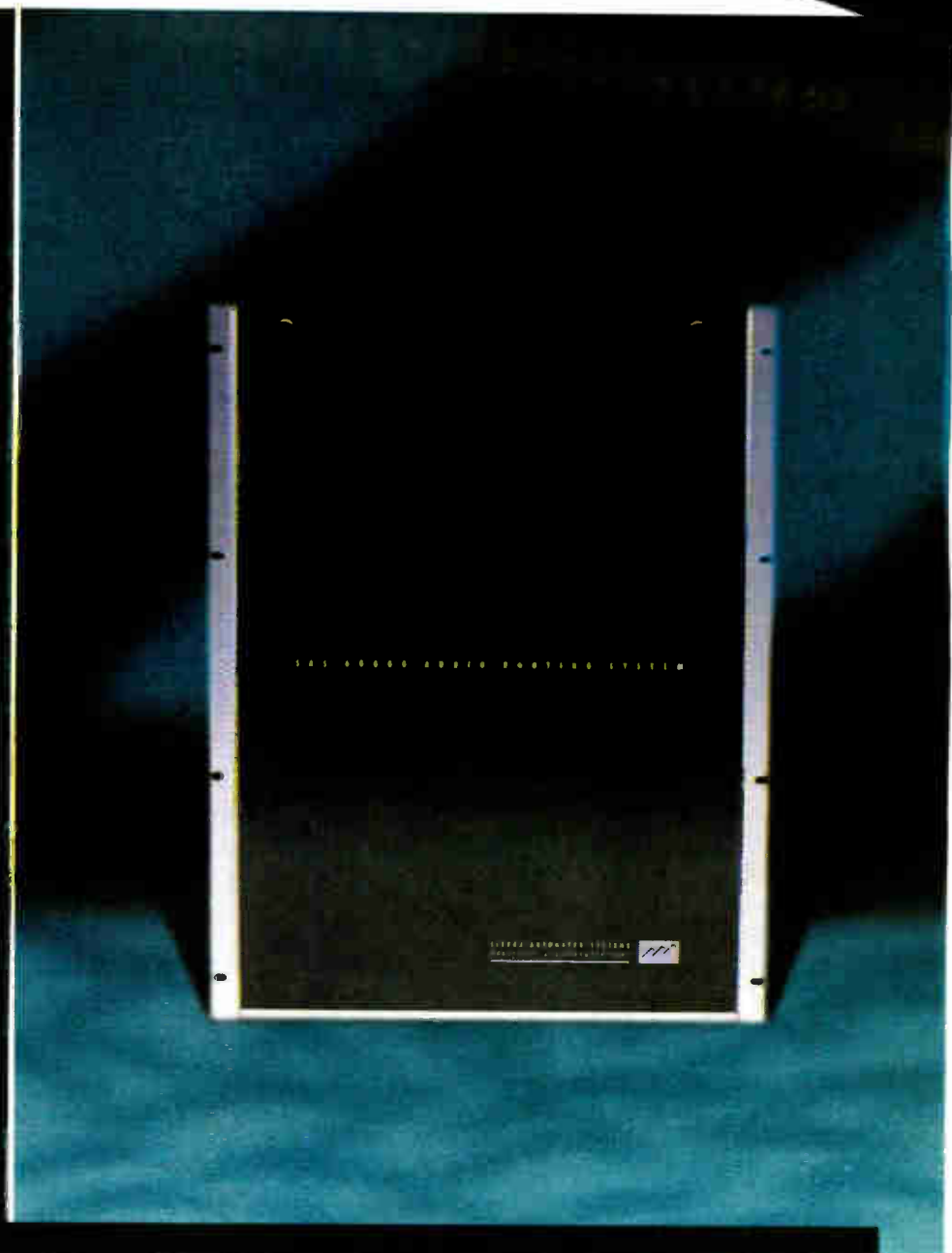
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# Austin

► Continued from page 31

Antonio's KQXT(FM) in 1993 when Group W sold the station to Clear Channel.

"I was a test case. I think we were the first place where they (Clear Channel) decided they didn't need a GM for each radio station."

eagerly anticipating his third go-round with Clear Channel.

"We've put together a winning team here and continue to put up good numbers. KASE is the top billing station, but because of sheer numbers we're not the number-one billing group in Austin. LBJ-S, because they have more FMs and an AM that bills like an FM, is the number one billing group. But after we consolidate with Clear Channel, we'll be on top."

In 1999 LBJ-S billed \$20.9 million,

AMFM/Clear Channel merger is approved.

While LeGrand awaits the opportunity for the group to take over the number one billing slot, others see the finalized merger simply resulting in business as usual.

"I don't foresee any impact from the merger," says Mike Austin, assistant PD and music director for Infinity's KKMJ-FM. "All those stations are operating here already. There are so many stations and factions here that I don't think it will affect things too much."

In general, billing is very good in Austin. Estimated revenues have grown from \$49.5 million in 1996 to more than \$78 million in 1999. Local revenue growth stands at 85 percent, compared to 15 percent nationally, according to BIAfn.

"Advertisers love to come into Austin," said LeGrand. "Business in general is good and that means advertising budgets are great. The basis is always the automobile industry. But here the high-tech companies have been our biggest advertisers."

"The degree to which Austin is involved in the dot-com explosion has made it a particular focus of this business."

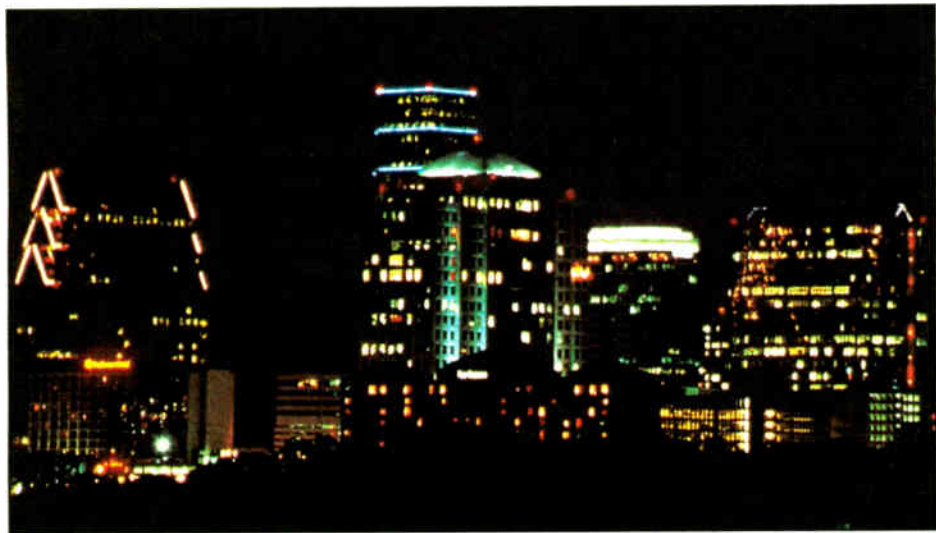
LeGrand has noticed a slight slowdown in tech advertising that corresponds to the stock market's high-tech cool down.

"I'm hoping it's just a summer slowdown. There was so much enthusiasm from these Internet-based companies in the first half of last year that we were on a sharp growth curve."

"There was such a feverous pitch to get out there and make deals that from our perspective you could write your own



KGSR radio at Austin's Kidfest 2000



The Austin skyline lights up

He left Texas to work with Paxson Communications as vice president of sales for a six-station group in Florida. In 1997, Clear Channel bought the stations from Paxson. LeGrand stayed with Clear Channel in Orlando for a year before coming to Austin. Now he's

followed by AMFM's \$19.65 million, Infinity's \$17.6 million and Clear Channel's \$8.9 million. All revenue figures provided in this article are from the BIAfn.

As LeGrand pointed out, LBJ-S's billing reign will end as soon as the

ticket in terms of rate and availability. It put so much pressure on our inventory that it was just a huge boom to the revenues in the marketplace.

"In the first part of this year it was maintained. But it has slowed to if not a crawl, to a reasonable level of growth."

### Country is king

The rapid growth of the market has also changed the characteristics of the Austin listening audience.

"This is Austin, Texas, and the big dog is still country music," said KKMJ-FM's Austin. "But one of the things that's been interesting is the effect of the people who come in from different parts of the country to work for the high-tech companies. It changes the market considerably. They may be looking for something a little bit different, so I think all formats have benefited from that."

Dale Smith, who writes a radio column every other week for the Austin American-Statesman newspaper, see the

See AUSTIN, page 43 ►

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### Austin, Texas Commercial Radio Market Overview

Stations	Owner	BIAfn's 1999 Est. Station Rev (\$000s)	Format	Winter '00 Rating
KASE(FM)	AMFM Inc.	10,450	Country	8.6
KQBT(FM)	Infinity	3,500	CHR/Rhymc	5.4
KFMK(FM)	AMFM Inc.	3,000	Country	5.4
KLBJ(AM)	LBJ-S LP	5,700	News/Talk	5.3
KKMJ-FM	Infinity	7,500	Soft Rock	5.2
KAMX(FM)	Infinity	6,200	Alternative	5.2
KVET-FM	AMFM Inc.	6,200	Country	5.0
KLBJ-FM	LBJ-S LP	7,000	Rock	4.8
KHFI-FM	Clear Channel	4,900	Top 40	4.7
KPEZ(FM)	Clear Channel	4,100	Clsc Rock	4.2
KEYI-FM	Hispanic	3,500	Oldies	4.1
KGSR(FM)	LBJ-S LP	3,900	AAA	3.8
KROX-FM	LBJ-S LP	3,500	Alternative	3.7
KLNC(FM)	LBJ-S	850	Country	1.9
KJFK(FM)	Shamrock	1,600	Talk	1.5
KKLB(FM)	Garcia, Lorenza	1,300	Spanish	1.5
KAHK(FM)	Simmons Media	600	Clsc Rock	1.4
KJCE(AM)	Infinity	400	Urban AC	1.4
KIXL(AM)	KIXL Corp.	1,100	Chrst/Talk	1.2
KQQQ-FM	Yellow Rose	200	Spanish	1.2
KVET(AM)	Concord	1,200	Sports	1.0
KELG(AM)	Garcia, Lorenza	1,000	Spanish	1.0
KFON(AM)	Pecan Partners	300	Sports	0.7
KFIT(AM)	Onyx Co.	N/A	Gospel	0.5
KTAE(AM)	Vie Dansante	400	Span/Talk	0.0
KQQA(AM)	Yellow Rose	100	100 Spanish	0.0
KTXZ(AM)	Garcia, Lorenza	100	Spanish	0.0
KUOL(AM)	La Radio Cristiana	N/A	Gospel	0.0



Stations are ranked in order of Arbitron Winter '00 12+ share. Copyright 2000 the Arbitron Company. May not be quoted or reproduced without the prior written permission of Arbitron. Other information provided by BFA Financial Network through its MEDIA Access ProRadio Analyzer Database software.

Background: Beachtime at Lake Austin



# Austin

► AUSTIN, continued from page 42  
influx of outsiders — both residents and station owners — as something that has taken much of the spice out of local radio. “Austin used to have more of a local base, but it’s become more homogenized since AMFM and Infinity came in. I don’t think the overall market is that much different from what you’d find in other places. There are oldies stations, country formats and your basic mainstream rock formats, just like all over the nation.”

Smith points out that even among the city’s popular country stations there is considerable duplication in formats.

“There are at least three country stations in town playing the same kind of music, even though they say they’re playing to different audiences. It seems a little bit much.”

Two of those country stations are in AMFM’s group.

## Inter-cluster competition

“We work hard to make sure we don’t compete against ourselves within our own cluster,” LeGrand said. “We do research and ask people what their perceptions are and we’ve found that each station serves its own niche.”

KASE is primarily ‘90s pop country — Shania Twain, Faith Hill. That’s opposed to KVET-FM, which plays legendary country, such as Merle Haggard and George Jones.

All these formats co-exist in Austin because the listening audience here is much the same as it might be in any big city — it’s diverse.

“Sometimes you can make the mistake of overestimating the intelligence of the audience in thinking that this is an educated place and the listeners know more than anybody else,” said KGSR’s Denberg.



Bill LeGrand

“That may be true for some stations, but there’s still a market here for the usual commercial stuff, be it the Goo Goo Dolls, NSYNC or the Backstreet Boys.”

However, some stations in the market, including KGSR, succeed in filling a niche in programming to segments of the audience that like roots music, folk, country folk and alternative country. Another factor to consider is the concentration of musicians who live and perform here.

“We have a lot of great music at our disposal that stations in other markets do not,” said Denberg. “We’re in a market where Kelly Willis has sold 17,000 records. Robert Earl Keen sold 11,000 of his last release. That’s about 10 to 15 percent of our whole audience. That’s a lot

of records being sold by artists who are really Austin.”

If there are some deficiencies in Austin radio, it’s that news and jazz formats are in short supply.

KLBJ(AM) is the radio news leader in the market primarily due to the fact that there is no radio news competition. The station, which calls itself “Newsradio 590, The News and Talk of Austin” has a lineup of syndicated talkers such as Rush Limbaugh and Dr. Laura Schlessinger, interspersed among homegrown talent like Cactus Pryor, KLBJ(AM) commentator and Austin radio legend. The station has a seven-person news staff, headed by News Director Dave Isaacs.

## News commitment

“We do a newscast every half hour, 24/7. The length varies by day part. In

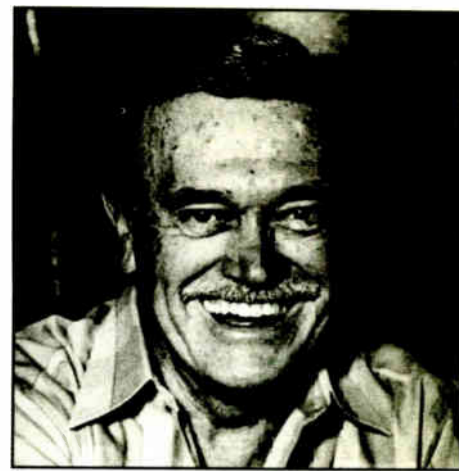
morning drive, between the network and ourselves, we’ve got a newscast that runs until almost a quarter past the hour. Middays, we’ll do two or three minutes at the top of the hour and a minute-and-a-half at the bottom.”

Isaacs’ staff also does news reports on LBJ-S stations KGSR and KLNC(FM) three times an hour during morning drive.

AMFM’s KVET(AM) attempted an all-news format in the morning three years ago. But ultimately the station switched to an all-sports format, leaving Isaacs and his staff to chase news on its own.

“It’s not a spot news, blood-and-guts market,” explains Isaacs. “But with state government here, university issues and high-tech, it’s a real decent news market.”

Jazz has been gone as a full-time format since LBJ-S’s KLNC switched its



Cactus Pryor

identity from K-Jazz to Lone Star Country in 1998. “Jazz is noticeably  
See AUSTIN, page 46 ►

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**Awesome Sound Quality:** With AXS 3, your station will sound superb. AXS 3 uses only the best *non-proprietary* +4 balanced *4 output* digital audio cards by Audio Science. These are also sold by most of the major brands of digital systems, but only in their top-of-the-line models costing *lots more* than AXS 3.

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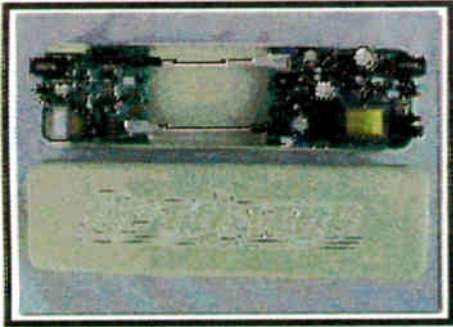
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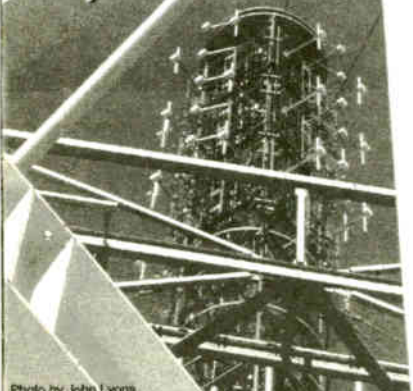


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# Rules

► Continued from page 40

And when you sell time, "you're not required to offer a candidate 'exclusivity' in a spot break as you would want to do with a car dealer, for example," said Goodman.

Oxenford said that in addition to the complex broadcast rules, there are also public inspection issues involved in every election.

"Stations are required to immediately put into the public file all dispositions of requests for political time, the dayparts,

corresponding rates and any other appearances on the station by a candidate."

Oxenford said that other file entries can be handled within a reasonable period of time.

"Whenever the traffic system generates exact times, this information must also be placed in the file."

Many stations provide candidate profiles on their Web pages prior to an election.

Goodman said, "Stations ask us about this all the time and it's a whole new ballgame. At this time, the FCC does not control your Web site."

However, he said, stations must be careful about mentioning specific candidate names on the air when directing lis-

teners to the Web site.

"And you should be careful about selling Web services in combination with air time," said Goodman. He also said that while the Internet is a new frontier, he is certain that the commission "will be looking into this whole area shortly."

Oxenford said that while most paid public service announcements are from legitimate organizations, some may not be so innocent.

The tobacco industry, for example, has been criticized for forming groups with names that do not reveal the nature of the organization.

"If you get complaints, you should determine who is really paying for the

spots and find out in a hurry. Document your investigation," said Oxenford. "When in doubt, pull the ads."

It can be difficult to determine who paid for an ad. A number of groups conceal their funding sources through a loophole in Section 527 of the U.S. Tax Code, according to the Alliance for Better Campaigns, a Washington D.C. campaign reform advocacy group.

Scott Harshbarger, president of public interest non-profit group Common Cause, describes the "527" organizations as "the boldest, brashest way to evade campaign finance laws."

One "Stealth PAC" identified by Common Cause is the Republican Majority Issues Committee, for which Rep. and House Majority Whip Tom DeLay (R-Texas) is a fundraiser.

"Yes, Mr. DeLay does raise money for them and he does attend their events, but Common Cause has its own ultra-liberal agenda," said Emily Miller, press secretary for DeLay.

On June 29, a bipartisan, bicameral coalition including Sen. John McCain and Sen. Chris Shays succeeded in getting a reform measure passed to reduce these abuses.

Before going to the president, the House and Senate versions of the measure would have to undergo reconciliation.

Ken R. is a former broadcaster and jingle producer who devotes full time to writing.

## Political Season 2000 Help

There are resources available that readers may find helpful as this year's political season begins in earnest.

NAB has long and short versions of those resources to aid every broadcaster.

The freshly updated "Political Broadcast Catechism, 15th Edition," is the comprehensive guide to political broadcasting rules (\$35.97 for NAB members), available at the NAB Store ([www.nab.org/nabstore](http://www.nab.org/nabstore)) or by calling (800) 368-5644.

The short version is "Election 2000," an NAB brochure that



includes a section with ideas for using the Internet as an election-year resource as well as a guide from the Commission on Presidential Debates about political debate sponsorship. Call Jennifer Livengood, vice president of national campaigns at the NAB in Washington, (202) 429-5447 for a copy.

Arthur Goodkind has written "Political Broadcasting Rules of the Road: Campaign 2000," available at no cost to NAB members. Call Goodkind at Holland & Knight at (202) 955-3000.

David Oxenford published a paper called "Political Broadcasting Advisory," available free at (202) 659-3494.

Information on Stealth PAC Disclosure Reform is available on the Web at [http://commoncause.org/publications/current\\_releases.htm](http://commoncause.org/publications/current_releases.htm)

## Free Time

► Continued from page 40

for the public convenience, interest and necessity," said Matt Farrey, associate director of the nonprofit Alliance for Better Campaigns.

"Stations have been given their broadcast spectrum at no cost and we are not afraid to ask the FCC for a mandate if we don't get voluntary cooperation," said Farrey.

The alliance directs its efforts primarily at television stations, but Farrey says the same principle applies to radio.

While the large majority of radio groups have been able to resist requests from public advocates to open their airwaves, Bloomberg Television and Radio are an exception.

"Broadcasters have a special obligation as custodians of the public airwaves to the news and information needs of a democratic society," said Michael Bloomberg, CEO of the company bearing his name. Bloomberg has committed his stations to the "5/30" request from Carter.

Segments dubbed "Candidates Uncut" will feature presidential-hopeful interviews and statements on economic issues broadcast over the Bloomberg cable channel, available to almost 400 United States radio and television affiliates.



Dan Shelley

The company plans to offer candidate-centered coverage of key senate, house and state races on its New York affiliate, WBBR(AM).

Federal Communications Commissioner Gloria Tristani spoke at the recent American Enterprise Institute symposium about the role of broadcasters in political campaigns.

### Quality programming

She reminded the attendees that Congress stepped in to force broadcasters to provide quality children's programming that the marketplace did not provide in the 1990 Children's Television Act.

"We may be reaching the same place regarding political discourse," Tristani said. "If the marketplace is not working, it may be time for government to step in. After all, we are not talking about soda pop or toaster ovens. We are talking about our democracy."

Tristani also said that it is not too late in this election cycle for other broadcasters to join the tiny number of their colleagues who will offer free airtime to political candidates.

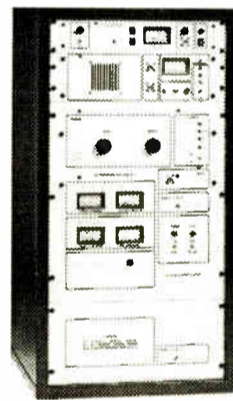
"The election is still months away. I think that how broadcasters respond over the coming months will have a big impact on whether we can continue to rely on the voluntary actions of broadcasters, or whether a different approach is needed."

— Ken R.

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# Austin

► Continued from page 43  
absent," said KKMJ-FM's Austin. "After LBJ-S folded its jazz format we benefited by putting on a Sunday morning jazz show that's done very well."

## The pubs

A handful of other stations also devote portions of their airtime to fill the jazz void. Most notable is the market's top public radio station, KUT-FM. The station, which was playing jazz before, during and after the departure of K-Jazz, plays at least 16 hours of jazz on its airwaves each week.

KUT-FM is one of six public radio stations operating in Austin. The station is

licensed to the University of Texas and is run from the university's College of Communication. In addition to jazz, the station features an eclectic schedule of music (folk, bluegrass, world beat, rhythm and blues, rock, blues, etc.) and public affairs programs, as well as programming it receives as part of National Public Radio's network.

Stewart Vanderwilt, KUT-FM's director and general manager, came to the station earlier this year after spending 15 years at the public radio station in Muncie, Ind.

"KUT-FM is one of the hippest public radio stations in the country. It's in a dynamic, growing city that has the four elements of a really good public radio city: It's the state capital, it has a major university presence, it has a highly educated populace and it has this fourth ele-

ment, which is a culturally engaged and literate community. It just makes it a very exciting place to be involved in public radio," Vanderwilt said.

Vanderwilt is not concerned that KUT-FM competes with several other public stations for listener dollars.

"I think having several public radio stations helps lift the consciousness of public radio overall. Each of us differentiates ourselves by what we're able to special-



KASE morning man Rob Mason at the annual station-sponsored 'Kids Fun Fair'

ize in."

KUT-FM is the NPR station in the market. The station also has a heavy focus on the music and culture of central Texas. Other public radio stations in the market have their own distinct niches. KFMA-FM is the lone full-time classical station in the market.

KOOP(FM) radio is a community-owned station with a diverse range of music and special interest programming. KVRX-FM, which shares a frequency with KOOP, is a student-run station on the University of Texas campus. KAZI-FM is community radio featuring religion, public affairs and urban music.



Mike Austin

"There's a place for all of this," said Vanderwilt. "I think it's to everyone's advantage that everyone's strong."

KUT-FM is certainly going strong based on its spring 2000 fundraiser. The station exceeded its target of \$365,000 by raising \$499,575 from nearly 4,400 individuals and businesses. Ten percent of that amount came in pledges via the Internet, again reflecting the high-tech influence in Austin.

"The way I look at fundraising is it's a measure of what we deliver to our audience," said Vanderwilt. "We're going to raise a dollar if the audience finds what we're doing to be valuable and our need valid."

Revenues are good. Fundraising is good. As KKMJ-FM's Mike Austin puts it, "It's the trickle-down theory. You've got these companies that are just raking in cash and doing so doggone well that it just funnels to everything else that goes on."

Austin, who moved to Texas six years ago from New England, pointed to one more enticement about this market — no snow. That's because Austin, Texas is "hot, hot, hot."

■ ■ ■

Steve Sullivan, co-founder of the Advanced Interactive Media Group LLC, lives near Austin, Texas. He can be reached at (512) 260-3313 or via e-mail at [sullicom@aol.com](mailto:sullicom@aol.com)

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World Radio History



# Studio Sessions

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**See Page 55**

Radio World

Resource for Radio Production and Recording

August 16, 2000

## Can I Request 'Stormy Weather?'

Alan R. Peterson

I told you last time that I would keep you apprised of the progress of my new money-waster, low-power AM Annandale Terrace Radio. But I am fresh off the plane from a family trip to Omaha, Neb., with a radio tale that you might enjoy.

Before I began the trip, I read up on Omaha's wacky weather and the incidence of tornadoes that crop up in the Midwest during this time of year. I was not about to let it get the best of me, as I'm a lousy flier, and hoped to make it through the week without so much as a drop of rain gracing my graying pate.

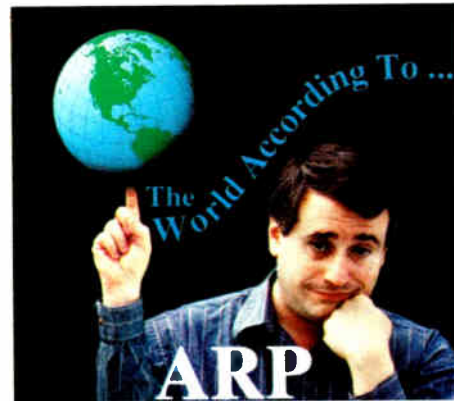
ing codes insist upon.

Our hosts turned on a battery-powered radio to track the storm, while children wailed in terror of a pending twister. Distant relatives I had never met chatted rapidly in Spanish, while others looked ominously upwards, waiting for the ceiling above to spin away in a shower of splinters.

Amidst all the anxiety in that cramped storm cellar, only I would be the one thinking, "Wow, what a great station."

### Familiar feel

It turned out I was quite prophetic in my reaction. The station was 590



tial storm bearing down on us. Reporters hopped in cars and took positions around Douglas County and beyond to give live updates and commentary.

The anchor at the station pulled all the elements together in a cohesive product and stayed with storm coverage long after the danger had passed our immediate area and headed east to bear down on Council Bluffs, Iowa, and beyond. It was a long time before the station returned to its nostalgia format.

This is a way of life in Omaha, once devastated by a 1975 twister. Back east where I live, listeners angrily call radio stations when their precious baseball broadcasts are interrupted by storm reports, no matter the severity. Factory roofs can be tumbling in the wind down Interstate 95, but we uppity Easterners simply have to know if Cal Ripken is up to bat.

In the Midwest, survival comes first. Nothing is more important than taking cover and waiting for a storm to pass. Overly formatted cookie-cutter radio won't last long in this burg. The folks at KOMJ had it down like a dance step.

I had to know more about them, and Program Director Tom Oakes was more than happy to have me drop by.

KOMJ is a few miles out of downtown Omaha, on a hillside dotted with TV  
See KOMJ, page 51 ▶



KOMJ News Director Bill Jensen in the large news studio. Computerized forecasts, real-time radar images and scanner radios are constantly at his fingertips.

My second day there, the skies turned black and began to boil and swirl. Local authorities set off the tornado warning sirens. Down we went to the reinforced basement storm room that the local build-

KOMJ(AM), Omaha, once remembered as our old friend WOW(AM).

Now an adult standards station, "Magic 590" blew off music programming entirely to devote its full attention to the poten-

### PRODUCT EVALUATION

## LynxONE Improves PC Audio

Dennis J. Martin

I admit being disappointed by PC audio from early on. Fidelity issues aside, I've also been mildly persuaded into believing that the hostile innards of a computer would never be a respectable place for delicate analog audio signals.

But in the last few years, tremendous progress has been made. The LynxONE audio interface card from Lynx Studio Technology is one of the more notable achievements.

The LynxONE has 24-bit analog and digital audio XLR I/Os, dual MIDI ports and word clock in/out. For multitrack applications, up to four LynxONE cards can be strapped for sample-accurate clock synchronization.

In the digital domain, the I/O can be selected as AES/EBU or S/PDIF. Source and load impedances switch, as they should, between 110 and 75 ohms and are properly transformer coupled. Level and channel status bits also change as the standards dictate.

In the analog domain, the card does not require a consumer-to-pro adapter because the true balanced inputs and outputs operate at +4 dBu. The output will drive a 600-ohm load. Because the circuit is transformer-like, its level does not drop by 6 dB when connected in an unbalanced configuration.

Should you need to interface with

See LYNX, page 50 ▶

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PRODUCT EVALUATION

# Nightingale Makes Beautiful Music

Sallie Sauber

Caron Nightingale knows the importance of music in a production. With her skills as a music producer, supervisor and composer, she has worked in many areas of the music industry and has numerous awards to show for it.

was looking at anybody from Ted Danson jammin' on the electric guitar and Weird Al posing for his high school senior picture, to my friend Amy's brother and my dad.

I would not bother having fun with the mugs if these composers were not so completely talented.

"There are certain aspects I tried to pay attention to when putting together the music library like studying the competition," said Nightingale. "I wanted to put out more music per CD. Some other libraries offer as few as eight actual songs on a CD whereas my first collection had 23."

### Easy to edit

"I also made the music extremely easy to edit. The cuts may range anywhere from two to four minutes. But within the cuts, you can really edit a lot of different pieces."

In addition to its own growing library, Nightingale

Music Productions represents 13 other music and sound-effects libraries with more than 800 CDs to choose from.

Caron Nightingale also has a background in voiceovers, which led her to the idea for "The Nightingale Voice Box."

Nightingale said, "I just woke up one morning and thought, 'I can do voice-only sound effects.'"

It wasn't that the phone was ringing off the hook with people desperate for

used in the background."

And, if you need your news, weather, and sports in French, Spanish or Italian, it is all there.

Of course, every fun-loving production director should find a use for what I call the "bodily functions" or Vocal Foley section.

### Bodily functions

There are mouth flatulations and spews, orgasms and belches. I have vowed to put together a little ditty with a classical piece and bodily functions following the beat of the music.

Nightingale said, "It was a lot of fun. We used professional actors, but also many friends and family. I got to see a lot of people I had not seen in a long time over the three-month period of studio and remote recording."

How about some of these sayings: "Well, damn it, if it ain't broke, don't fix it!" Or a man with an accent saying, "Only a mother can love that face."

I have never flipped through the pages of my other sound effects libraries at the radio station where I work searching for these



sayings, but if I ever need them, I have them now.

However, I am tired of dragging some poor soul into production insisting he magically transform his voice to that of a child's. Even those one-word utterances like "no" or "mommy" are not believable coming from even the best afternoon jock. Not to worry, "The Nightingale Voice Box" is full of real-life kid stuff from cutesy to bratty.

With this collection, I will never have to yank the GM, sales and engineering staff in to the studio for a group yelling "Happy Birthday" or "Merry Christmas" because this collection has group voices cheering everything from "woo hoo" to happy or  
See NIGHTINGALE, page 57 ▶



## VOCAL PRODUCTION ELEMENTS FOR FILM, TELEVISION & ALL MEDIA 2 CD Set with over 1500 elements

Whether it is a movie soundtrack or music behind a commercial, Nightingale notes that the music often is the last thing to be considered on a production, which is unfortunate considering its importance.

In an article in "Visual Convergence," Nightingale said, "Indeed, it is often the music that scares you the most, that brings tears to your eyes, a smile to your face, that instills that feeling of pride or that makes you want to go out and buy that exercise machine on the infomercial."

### Within the cuts, you can really edit a lot of different pieces.

— Caron Nightingale

Perhaps this is the reason the music in the Nightingale Music Productions library is unique.

The presence is amazing and captures all the elements you would expect to find in a big-budget Hollywood movie score. In fact, the two composers on the "Orchestral Film and Score" CDs are indeed Hollywood-acclaimed.

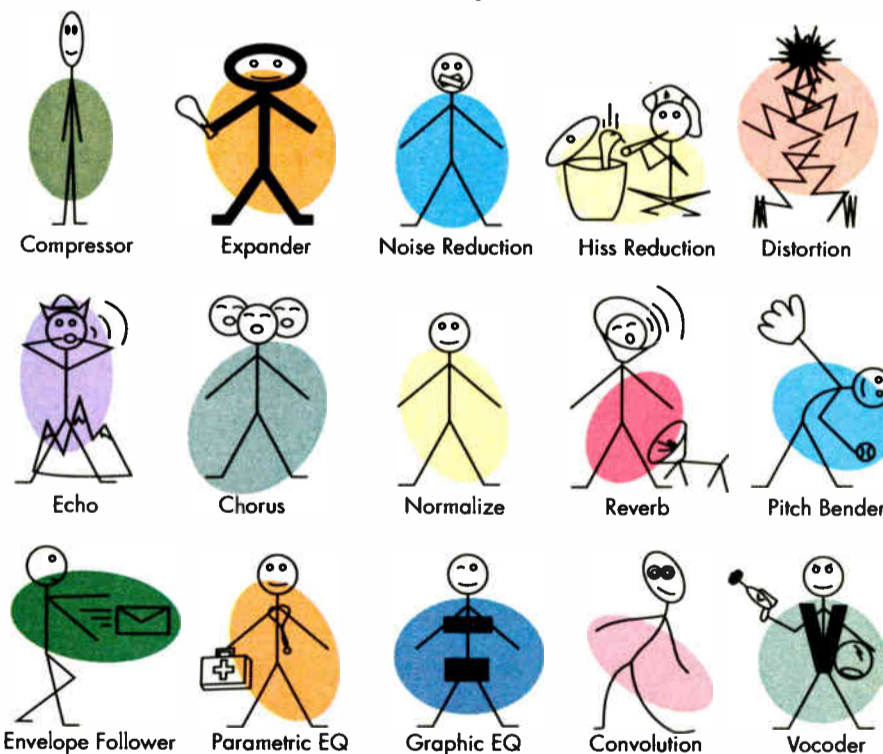
From "Techno, Groove and Dance" to "Wonder, Myth and Magic," the songs are interesting enough to listen to on their own without a vocal slapped overtop to make it complete.

Looking at the pictures of the composers inside the CD sleeve, I thought I

this type of material. But Nightingale considered all the generic stuff she would get called on to voice over as background material, like weather forecasts and sports reports, and saw it as perfect for inclusion on the project.

"Usually I'd get a call late at night and someone would say, 'We're editing the film right now and thought it would sound great if the character was waking up to a radio with a news or weather report.' Thus, the Voice Box has weather for a cold day, a rainy day and a sunny day. It's the same with news — there is happy news, sad news, violent news — generic reports that were meant to be

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\*No stick-figures were hurt in the making of this advertisement.



# Lynx

► Continued from page 48

semi-pro equipment, supplied software can set the card to -10 dBV operation and a switched attenuator preserves signal-to-noise ratio. Because 16 dB of headroom is allowed, maximum output is +20 dBu or +6 dBV in +4 dBu and -10 dBV modes, respectively.

## Full-duplex

Additionally, this card is a full-duplex card, meaning it can record and play simultaneously using any combination of its analog and digital ports. An important feature not to be overlooked: one full-duplex application is able to process audio external to the PC as it is played and recorded on different tracks.

Because analog and digital I/Os operate independently, the card is actually a four-channel device. Using either an external A/D or D/A as appropriate, four channels of audio can be recorded and played at the same time.

Even though the half-size card supports 12 external connections, it occupies only one PCI slot. Rather than using quarter- or eighth-inch phone jacks, two breakout cables transform bracket-mounted D connectors into studio connectors.

One cable, which is six feet in length, converts a 25-pin D connector into six XLRs for analog and digital audio inputs and outputs. A companion two-foot cable translates a 15-pin high-density D connector into four five-pin DINs for MIDI and two BNCs for clock signals.

## Installation

I have installed three cards — one at KZLA-FM where I work, another in a colleague's studio and one in my home PC. In all cases, the procedure for Windows 95/98 was simple.

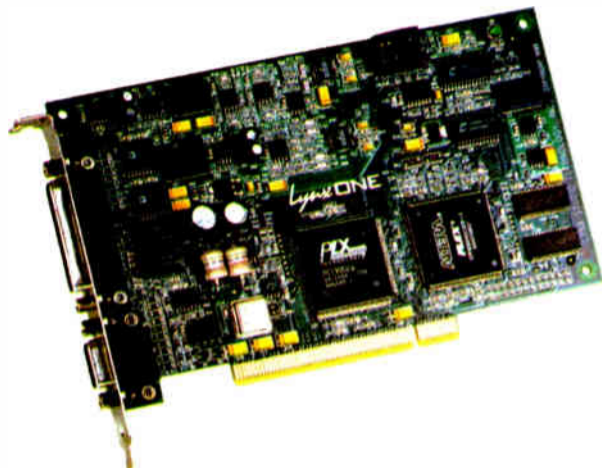
A setup program is first run from a supplied floppy disk during which an installation wizard copies necessary driver files to the hard disk.

When the computer is restarted after

installing the card, Windows will detect the card as new hardware and automatically configure it using the previously loaded software.

Drivers are available for Windows 95/98/NT/2000 and updated versions, including notes about revision history, can be downloaded from the company's Web site. An on-board green LED lights to signify when the board and driver have properly initialized.

Devices use Interrupt Request (IRQ) lines to send interrupts or requests for



service to the microprocessor. As PCs have grown in complexity, available IRQs have dwindled. However, the LynxONE was designed with compatibility in mind.

In one PC, it shared an IRQ with a busy display adapter without any ill effects. And in two other PCs, the LynxONE cards coexisted with unremovable, integrated sound.

## The mixer

Although audio cards are intended to function quietly in the background, there are times when the card needs to assume a proactive posture and move into the foreground.

Once configured, an icon will appear in the system tray of the taskbar. Right-click on the icon and a pop-up menu of common parameter changes will appear. Double left-click instead and the LynxONE Mixer application will open

(see Fig. 1).

Using this window, all aspects of the operation of the card can be controlled and monitored. Analog and digital I/O levels and channel balance can be adjusted. Each I/O can be muted and a color change shows which are active.

A 20-segment virtual LED displays indicate peak level from 0 to -96 dB. A choice can be made to monitor analog in, digital in, analog out or digital out, and assign the monitor source to the analog and digital outputs.

The sample clock can be set to four sources and reference to one of five options. Mixer settings are saved when Windows shuts down.

## Troubleshooting

The digital input status indicator can be used as a general troubleshooting aid. It recognizes and displays *Pro* or *Con*, whether the digital input is professional, which is usually AES/EBU, or consumer, which is generally S/PDIF. It also will display mode — lock, which is usable; or unlock, which is not. The impedance, signal level and some status bits are different between Pro and Con settings.

Using a combination of codes and colors, the LynxONE will indicate if it is receiving audio data flagged as invalid or if the signal is unstable or has been degraded by long cables or poor connections.

The software can also identify violations of the biphasic encoding rules, signals that do not exhibit even parity and CRC channel status codes that do not match calculated values. The converters automatically correct DC offset on startup but as the PC's operating temperature warms, they can drift slightly. A button to calibrate the converters allows the perfectionist to correct for any drift that may occur.

Bob Bauman, president of Lynx Studio Technology, explained that this function cannot be automated. There is a slight interruption to the audio when the converters calibrate, which would be undesirable during any period of recording or playback.

As impressive as the published specs are, I found them to be conservative in some respects. In other ways, the measurement equipment limited me.

Recording and playing back all test signals in CoolEditPro verified analog performance — these are not input to monitor output measurements.

With the card installed in a Dell GX1 PC, set for 44.1 kHz/24-bits, and a reference level of -1 dB FS, I measured ruler-flat response with gentle rolloffs at the band limits.

These limits are -0.07 dB left, -0.06 dB right at 20 Hz; and -0.23 dB left, -0.12 dB right @ 20 kHz.

THD+N measured 0.0029 percent @ 1 kHz with 22 Hz to 22 kHz bandwidth filtering.

## Product Capsule: LynxONE Audio Interface Card

### Thumbs Up

- ✓ 24 bits
- ✓ Balanced analog I/O on XLRs
- ✓ AES/EBU and S/PDIF digital I/O
- ✓ Four-channel full-duplex operation

### Thumbs Down

- ✓ No online help
- ✓ No peak-hold meter function

For more information contact the company in California at (949) 515-8265 or visit the Web site at [www.lynxstudio.com](http://www.lynxstudio.com)

Signal-to-noise was better than 100 dB in a 22 Hz to 22 kHz bandwidth and greater than 99 dB A-weighted. Separation at 1 kHz measured better than 96 dB and inter-channel phase error was less than 0.4 degrees.

## Performance

Bauman said the analog support circuitry, professional-grade converters and a low-jitter clock source achieve this level of performance.

Despite simple and nearly automatic installation and detailed documentation, it is always comforting to know that competent assistance is readily available.

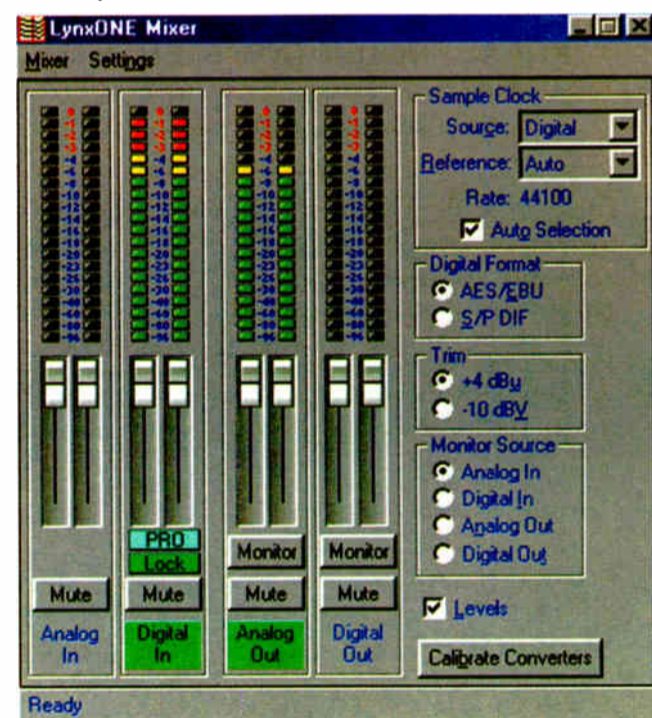


Fig. 1: The Mixer Screen

A qualified engineer answered my technical e-mail questions within 24 hours. And the reply was on target, thorough and complete. Phone support also is available.

Some PC peripherals can be finicky and plug-and-play does not always work as it should. But this audio card has performed flawlessly from installation through recording to playback.

Just like other audio gear, there are certain traits that distinguish and separate "semi-pro" devices from "pro." From the feature set to operating parameters to connectors, the LynxONE is in the pro category.

■ ■ ■  
Dennis Martin is chief engineer of KZLA-FM in Los Angeles. He is a member of SBE and AES, and has been an audiophile since the day he learned to spell it.

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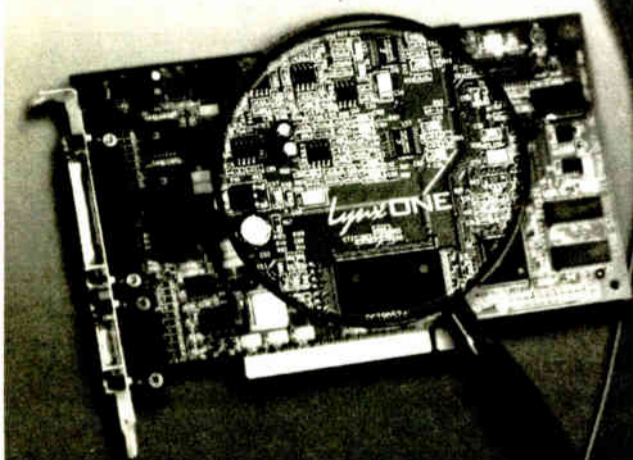
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# LynxONE

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# KOMJ

► Continued from page 48  
antennas. The appearance is almost that of a four-tower DA.

The station was once the legendary WOW(AM), a 5-kW non-directional operation with six-state coverage and a great dial position. Unfortunately, it experienced a downturn in popularity and listenership over the years, to the point of simply simulcasting country-formatted WOW-FM.



Breaker, breaker ... scanner radios and two-way communications inside a KOMJ remote storm vehicle

Normally, placing an FM signal on an AM stick all but means a station is finished. There was a serious need to rejuvenate WOW(AM).

### Bury old ghosts

A new format might have done it, but programmer Oakes knew that a complete overhaul was in order and old ghosts had to be buried. With the nod from the front office, new call letters were granted — much to the distress of fellow broadcasters.

"There are not many AMs you can turn around today," said Oakes. "And a lot of other broadcasters were upset by it. 'How could you give up those calls?' they would ask me."

I understood where he was coming from. Heritage calls are a nice tie to history, but they don't always pay the electric bill. So in November 1999, "Magic 590 — Great Songs, Great Stars" hit the air to start creating some new legends of its own.

News Director Bill Jensen had a lot to do with shaping KOMJ's storm coverage. As a younger broadcaster, he rode out "the big one" in 1975 and vividly remembers driving home through the devastation following his shift.

"KOMJ's storm coverage tradition goes back those 25 years," said Jensen. "Radio is still the quickest way to get the word out to everybody. During storms, we have two to four reporters in the field, and one or two reporters in-house."

The field reporters have a gallows humor term to describe their somewhat risky jobs: Bad Weather Bingo. Remote vehicles are driven out to predetermined points on a grid map, where correspondents can report when funnels touch

down, cross the river, bear down on the city or change direction.

Isn't this kind of information more easily available from a Doppler radar screen inside the studio where it's safe?

"It's one thing to click it on," said Jensen. "but it's another to be there and describing it. You can't see tennis-ball-sized hail on the radar screen. Besides, we're all a little crazy," he laughed.

And the personnel are obviously dedicated. Jensen's daughter Danielle is among the bingo players taking to the streets for KOMJ.

### Responsibility

As I said, sanitized and packaged formats just won't work in this town. Oakes recognizes the need to balance public service with his station making a profit.

"People deserve to have something to listen to, here in the Midwest especially," Oakes said. "We are still a trustee to the public. That's our obligation: to inform the public."

Evidently, that obligation does not end at city limits. With a six-state coverage, Oakes has a lot of lives depending on the accuracy of his bingo players.

"We have truck drivers heading to Chicago and Denver," Oakes said. "From 100 miles away, they have to know that the roads ahead of them are going to be closed, including major highways."

He has a point. I could not tell you where Adams County is, even on a bet. But if I know I am going to be on a certain highway at a certain time of day, I sure want to know if funnel clouds are bearing down on me.

There does not appear to be any threat from the Internet yet, as far as fingertip storm information goes. Oakes recognizes the threat is there, but clicking on a radio is still the fastest way to get the information that listeners need.

### No Internet worries

"As high-tech as people get," Oakes explained, "they still know they are five miles from the highway on the fringes of, say, Fremont."

Oakes said folks make their own decisions based on where they know they are and what the immediate conditions are without download delays. Plus, not a lot of trucks are wired for the Internet (something about that phone cable popping out of the wall when they drive too far).

News Director Jensen took me around the studio during my visit. I was impressed with the layout and function of the facility, and smiled at the mix of gear in each studio — a blend of high-tech computers and digital storage components with some elder consoles and furnishings.

My last encounter with a Harris rotary pot console was in 1981, yet there are two in action here: one in the main newsroom (picture 1) and another in a studio dedicated to regional farming news.

One of the newer acquisitions is a multi-

track Mackie console in the production room. The newsroom runs on AP WireReady and CartReady technology. The rest of the layout is a comfy mix of capable, proven gear that I probably would have hung onto myself, had I run the place.

### Thanks and buh-bye

On the way out, Jensen and Oakes gave me a copy of the KOMJ Storm Alert Map as a souvenir. I had hoped for a T-shirt to show off back home, but this was a more interesting read on the plane ride back to Washington.

At least if I hear on the news that a funnel cloud touched down in Pottawattomie County, Kan., I can check the map, see it's on grid mark 0-10 and yell "bingo!" to no one in particular.

KOMJ is my kinda station. The founders of WOW would be pleased.

Alan Peterson can now claim one of the shortest PD runs ever: His position and several others at Fairfax Public Access TV/Radio in suburban Washington were eliminated in mid-July due to budgetary considerations.

E-mail him at alanpeterson@earthlink.net and watch this space for further developments.

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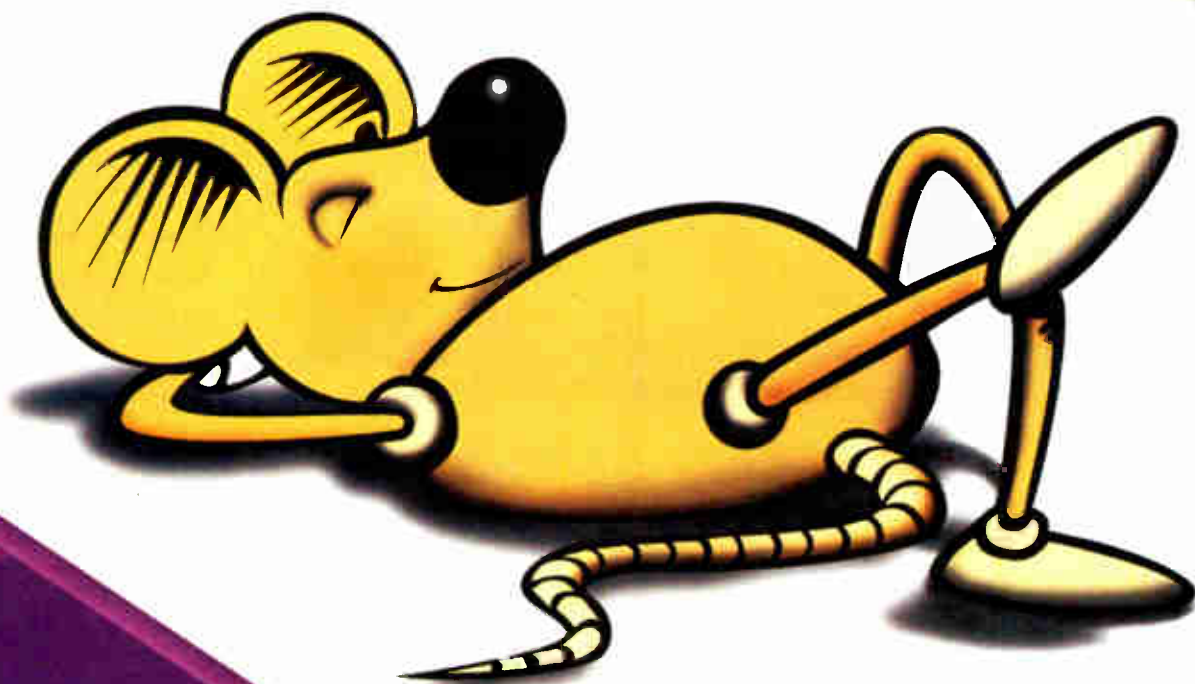


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# He Makes Good Radio in New Zealand

**Ty Ford**

Andrew Dubber loves making good radio.

"It's cheaper than telly and the pictures are better!"

Dubber and the cast and crew of the radio show "Claybourne" received first place for the Best Dramatic Production category of the New Zealand Radio Awards last year.

MP3 versions of the 5- to 6-minute episodes are available on the Web at [www.mp3.com/Claybourne](http://www.mp3.com/Claybourne)

To get an idea of what it takes to produce a series of dramatic programs for radio in the year 2000, columnist Ty Ford interviewed director Andrew Dubber of Pronoun Productions Ltd. by e-mail.

**RW:** How long has the show been in production?

**Dubber:** We were in production for approximately 10 months, which generated about six months worth of daily shows (Monday-Thursday), an award for best dramatic production and a couple of stomach ulcers.



A promotional postcard for the program

We are currently taking an extended break from "Claybourne" due to funding issues — all sponsorship inquiries welcomed.

**RW:** How many people work on the production — counting writers, producers and voices?

**Dubber:** It is difficult to count those involved because it raises the question of how many times you count each person. But here it goes: Belinda Todd and I are producers.

The writers are Jim McLarty and William Davis. The story line is the result of all four of us. In addition, I am responsible for studio engineering, foley and field-sound recording. Sean Donnelly and I do the editing and post-production. Victoria Kelly and Joost Langeveld compose and perform the music. I do some of the music engineering along with Andre Upston, Chris Sinclair and Joost Langeveld.

**RW:** How many shows have been produced?

**Dubber:** Ninety-six episodes were made. We originally planned for another 96, which we're still hoping to make as "Series 2." Partly because I want to find out who gets to end up with Karen, partly because we like to earn money and therefore eat, but mostly because we love making good radio.

**RW:** How many stations are airing "Claybourne"?

**Dubber:** One radio station. However, it's the top-rated commercial radio station in the country and it's networked nationwide. I think they're at 85- to 90-percent coverage of the country, geographically speaking.

**RW:** How does the money work?

**Dubber:** We've been funded by New Zealand On Air, a government funding body, which, when it gets the budget, gives money to projects of merit that otherwise would not make it onto commercial radio.

New Zealand has the most deregulated radio marketplace in the world and consequently has the most thinly spread budget. There is no money for "quality drama" on radio.

We were broadcast on a talkback network in an afternoon slot and repeated at nights. The talkback line has full FM bandwidth, but it's not stereo, and being a talkback station, they compress brutally. Because the program contains ambient sound effects and orchestral music, compression is fairly unkind to it.

NZ On Air is under review because of, among other things, a change of government.

**RW:** What hardware/software are you using to produce the show?

**Dubber:** Pretty much whatever we can get our hands on. As a part of the deal, we managed to talk the broadcaster into sparing

us the use of a production studio in the evenings, after their commercial production guys had gone home after 8 p.m. on

a Monday or Tuesday evening.

The actors used a couple of Neumann U87s in a roughly 135-degree X-Y stereo



Andrew Dubber works on the show

pattern. There were other mic arrangements used for different effects and to compensate for the equipment.

These stage and TV actors had a crash course in mic technique, especially in scenes containing up to seven characters at a time. Only Bruce Allpress was a veteran of old-time radio drama. I learned a lot from him, as did the rest of the cast.

I record direct to DAT with very light compression. I did a lot of field sound recording with a cheap Sony stereo mic and a portable DAT player that only worked when you held it upside down.

The only people who used really good gear were the orchestra members for the recording of the theme and incidental music. They had the best acoustic environment in New Zealand with computerized movable and multiple-textured walls, coupled with the largest collection of valve mics I've ever seen. It is worth the extra expense.

With the actors, we would record approximately four episodes a night, broken down to scenes depending on which

voices were available because everyone had other acting jobs.

I would record wild voice takes to DAT and take the tapes away to be edited at my own personal studio — the Pronoun Productions master studio — in a room in my apartment.

**RW:** How much post-production time does a 5- to 6-minute show like "Claybourne" take?

**Dubber:** Each episode underwent a 16- to 20-hour post-production process in which it was compiled and edited on 12 tracks of a Soundscape DAW. Sound effects were added from field recordings off DAT as well as CD library effects, bounced down, overlaid, re-routed through borrowed effects processors, subjected to various unorthodox audio-processing practices.

The mix was listened to on headphones for stereo placement issues, reworked, subjected to comment by all, compared on a number of different systems of different calibers and finally mixed and transferred to CD.

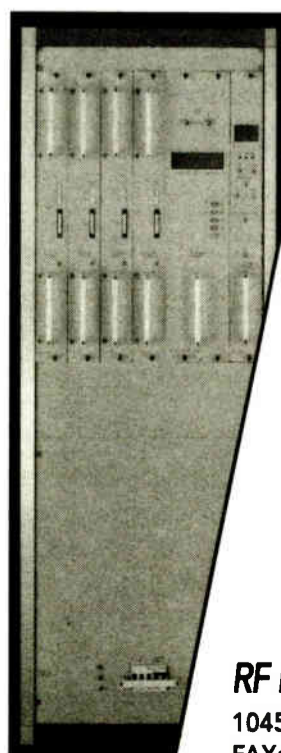
It was then forwarded to the station where they summed it all into mono and transmitted it through some of the most brutal compression and overmodulation. To their credit, they usually played the episodes in the right order.

See CLAYBOURNE, page 57 ▶

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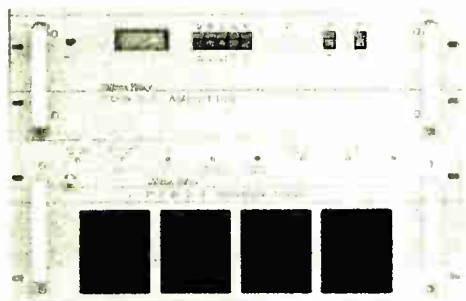


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**3X2B**

Active crosspoint switcher with 3 stereo inputs and 2 stereo outputs.



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NEWS MAKER

# Neutrik: 25 Years of Connecting

Paul Cogan

Neutrik AG, a company that holds 52 patents and is known for its connectors, recently celebrated its 25th anniversary.



Werner Bachmann, managing director at Neutrik, stands with the MK1 psychoacoustic recording head

In June, as part of this celebration, the company invited me and four other industry writers and editors to visit the company headquarters in Liechtenstein, the third smallest principality in Europe, to tour the factory, learn about the company and to visit the beautiful countryside.

## Historical significance

In a desire to return to his roots in the early 1970s, Bernhard Weingartner left AKG as director of engineering to work for the Hilti Corp. While working there, he began to long for his work in the audio world, realizing that a standard was needed for connecting microphones.

In 1975, he founded Neutrik and with three employees began making the 3FC XLR connectors in a barn.

The work was done by hand — a time-consuming challenge for Weingartner, who was also trying to build an international market.

In 1977, Neutrik came out with the 3201 Audio Tracer, a level recorder, which could perform a 20-Hz to 20-kHz

sweep for aligning tape machines. Neutrik put much of its efforts over the next 10 years into connectors like the X Series of XLRs and the NP Series of quarter-inch.

In 1984, the company moved into its current building. In 1985, the first daughter company was founded in Zurich, Switzerland. Three years later, it developed the Speakon connector line to meet new standards created by the European Union, which mandated that plugs withstand more than 34 V and be "touchproof." Around that time, the Profi line of RCA plugs was also created.

The ensuing years brought about the A1 and A2 audio testers. In 1988, Neutrik USA was formed. The Combo plug followed shortly after. It accepts both quarter-inch and XLR while saving real estate on devices that could use both inputs.

In 1994, the company opened Neutrik Ningbo + HGK in China and in 1995, Neutrik Tokyo. It purchased Technical Projects on the Isle of Wight, England, in 1986 to make test gear, and in 1998 bought Rean, which manufactures knobs and patch bays.

Neutrik Test Instruments was spun off

into its own company in March 2000. Since then, Bernhard Weingartner has stepped down as president, leaving long-time employee and our host Werner Bachmann as director in charge. Weingartner will keep his interests in the company as the chairman of the board of directors while he enjoys the more leisurely pace of retirement.

## Though the factory

The first stop on our tour was the engineering, raw-material storage and administration building.

One of the offices contains the model shop that makes prototypes of new devices, including the "head" mold used in the test device for measuring noise inside cars.

Across the street is Neutrik's machine and assembly building. The first floor houses machines that cut the metallic conductors from raw brass rods.

Upstairs are automated machines for assembling the connectors. It was fascinating to see all the individual parts come together by robotic arms performing a single function as the part spun around on a table from stop to stop.

would like to see in these devices.

One of the coolest features is that upgrades can be downloaded between devices. If I find someone with a unit with newer software, I can connect the two and they will automatically download the upgrade.

The last stop was back at headquarters for a group picture in front of the majestic mountains that border the valley and to the conference room to learn about new inventions.

## The future

The big new product is an "Easy-Patch" bay. Wires can be hooked in through Wago push terminals, Elco or D-subminiature 50 connectors.

What makes this unit unique is that individual blocks that contain the top and bottom female jacks for patching can be pulled out to set up the normalizing configuration or to be replaced.

The company also has a new series of budget XLR connectors named the "Easycon" series that contain only three parts. On the IDC version no soldering is needed, as a 22- or 24-gauge cable can be snapped into place.

Last, the company has several new 75-ohm BNC connectors — the Push-Pull and the Rear Twist.

Bachmann said, "Any new connector Neutrik invents has to have a technical

**Any new connector Neutrik invents has to have a technical innovation, a uniqueness.**

— Werner Bachmann

After lunch, our tour continued at the hand-assembly operation and the newly formed Neutrik Test Instruments, where we learned about the new Minirator and Minilyzer.

During a demonstration showing how both devices analyze many aspects of audio, the engineers solicited our suggestions of additional functions that we

innovation, a uniqueness."

Neutrik AG recently updated its Web site at [www.neutrik.com](http://www.neutrik.com) or you can visit the Neutrik USA Web site at [www.neutrikusa.com](http://www.neutrikusa.com)

Paul Cogan is the editor of *Studio Sessions*. Reach him via e-mail at [PCogan@imaspub.com](mailto:PCogan@imaspub.com)

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# 'Claybourne'

► Continued from page 53

**RW:** Why would you want to subject yourself to such a thankless medium?

**Dubber:** There really are no limits. I'm reminded of a scene from the "Goon Show" in which they find themselves down a manhole. One says, "Here stand on my shoulders and pull me up." There is a lot of grunting and straining and the other says "I'd like to see them do this on television."

In one episode of "Claybourne," a character is forcibly ripped from a truck by a large and hideous beast and then is awfully, graphically bitten in half while two characters watch buried up to their necks in concrete, while a dramatic rescue



This is where 'Claybourne' takes place.

attempt is going on by four men — one of whom is summoning mystical forces from the earth and one of whom is hallucinating he's back in the Vietnam War.

**RW:** OK, now that sounds like a lot of post-production.

**Dubber:** We were able to communicate this rather bizarre scene with clarity and immense scope. It had tension, high drama, comedy, horror, pathos, buckets of blood and a lot of wanton destruction.

We were successful in doing this, not because of a team of computer animators and a few million dollars, but because of the power of sound, some talented writing, a bit of what we like to call "kiwi ingenuity" and the imagination of the audience. Some new gear would be nice, but I'm scared that might take some of the fun out of it.

**RW:** Sounds like you are making "Claybourne" because you want to.

**Dubber:** I can't think of a real job where they'd let me have this much fun. When you know that this sort of thing is possible — why on earth would you not subject yourself to this process?

Of course, all this presupposes the availability of some budget with which to pay actors, feed other members of the family and keep enough coffee at hand to support a 12-cup-a-day habit — again, sponsorship enquiries welcomed. Ultimately, this is what I like to do.

To inquire about "Claybourne," contact Andrew Dubber at [andrew@jazz.co.nz](mailto:andrew@jazz.co.nz)



Technique, Inc. Copyright 2000. Ty Ford does narration, production and location audio.

# Nightingale

► Continued from page 49  
merry whatever.

Not only does "The Nightingale Voice Box" cue to track, it cues to indexes as well, making for quick and easy last-



Funky look, talented composers

minute productions.

Although the animal sounds in the

collection are human imitations, some can easily be substituted for the real thing.

"Nine months is a long time to work on one project," said Nightingale. She spent more than 1,000 hours herself on production and involved more than 50 other people in writing, editing, recording and performing of this project.

The set was released around the end of February and was launched at NAB2000.

Sound Ideas, Hollywood Edge and a number of other international companies distribute the two-CD set.

■ ■ ■  
Sallie Sauber is on maternity leave from WATH(AM) and WXTQ(FM) in Athens, Ohio. Noah

Charles was born June 30 and weighed 7 pounds, 13 ounces.

**Product Capsule:**  
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**Thumbs Up: Music**

- ✓ Multiple length cuts
- ✓ Emotionally charged
- ✓ Variety within each category

**Thumbs Down: Music**

- ✓ May be a bit too "deep" or serious for most small-market radio production

**Thumbs Up: Voice Box**

- ✓ No processing on most tracks for easy customization to your production needs
- ✓ More than 1,500 generic vocal production elements to choose from

**Thumbs Down: Voice Box**

- ✓ None

For more information contact Nightingale Music Productions in Ontario at (416) 221-2393 or visit the Web site at [www.nightingalemusic.com](http://www.nightingalemusic.com)

**PRODUCT GUIDE**

## Fanfare Launches FT-1A Monitor

Fanfare FM introduced the latest version of its FM tuner/monitor/demodulator.

The FT-1A is an agile-tuned monitor for station use, remote use and for use as a translator/repeater demodulator. With eight programmable presets that can be activated from the front panel or from an IR remote, close-market stations can be simultaneously monitored via the composite output and/or the balanced audio outputs.

The FT-1A has updates and new features, including SMT architecture; rear-panel adjustable composite output and balanced audio outputs. The unit can be updated to include AM/AM-stereo when this option becomes available later in 2000.



The FT-1A is modular to accommodate field servicing and is enclosed in a 16-gauge steel cabinet. Suggested list price is \$1,495.

For more information contact Fanfare Electronics Ltd. in New York at (800) 26-TUNER, fax (716) 683-5421 or visit the Web site at [www.fanfare.com](http://www.fanfare.com)

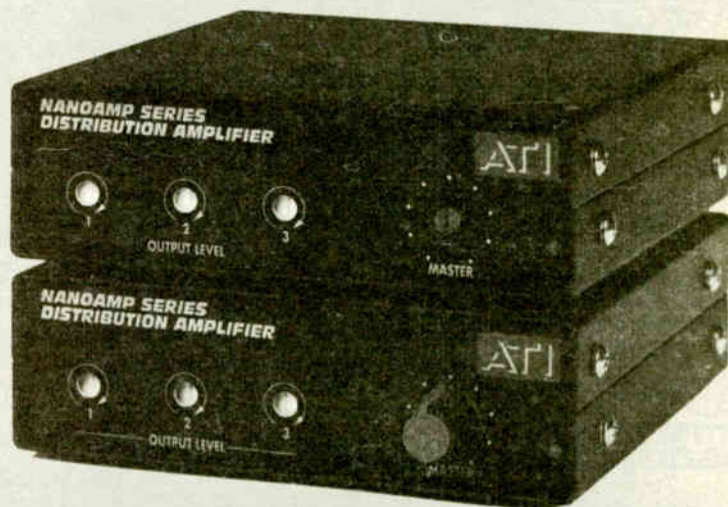
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Rohn 250' SSVMN microwave tower with anchor bolts. Lightning kit sold separately. F.O.B. Raleigh NC. \$34,855 + estimated freight \$1500. Ben Wall, 919-781-3496.

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360 Systems Instant Replay, used. Rocky, 727-579-8700.

Gates Sta-Level. Looking for one or better yet, a pair of these limiting amplifiers. Mark Schackow, Mark Schackow Recording, 307 4th Ave E, Lemmon SD 57638. 605-374-3424.

Yamaha BP-2 bass pedal unit, prefer electronics, but will be happy w/schematic & literature. B Meuse, Muse Audio Arts, 191 E El Camino Real #209, Mtn View CA 94040. 650-969-2433.

Yamaha BP-2 bass pedals/gen schematic, would prefer electronics, but will settle for manual/schematic & literature. Bob Meuse, Muse Audio Arts, 191 E El Camino Real #209, Mtn View CA 94040. 650-969-2433.

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Dynamax CTR 10 stereo P/R w/leds, gd cond, \$250/BO; Dynamax ESD 10 stereo cart eraser, gd cond, \$50/BO; Dynamax CTR 10 stereo players, fair cond, \$100/BO. Bob Iukin, KPLM/KOJZ, 441 S Calle Encilia #8, Palm Springs CA 92262. 760-320-4550.

Gates/Harris stereo R/P (2) w/remote cables, BO; Various ITC, BE, Beaucart, most stereo, BO. J Lalino, WLAL, 319 Rt 29, Middleville NY 13406. 315-891-3110.

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Yamaha MC1602, 16 chnl stereo, aux lines gd, main out distorted, looks gd, \$300; EV EVT 5212 12 chnl stereo, like new, \$400. Gene Whittenberger, Whittenberger Studio, POB 396, Mexico IN 46958. 765-985-2224.

Ramsa WR-54424 24 chnl recording console for studio or live applications, excel cond, \$1350/BO +shpg. S Nichols, Nichols Comm, 263 Sherburne Pl, Lyndonville VT 05851. 802-626-4148.

Auditronics 210 24 mixer broadcast console. Continental Communications. 800-664-4497. Email: [contcomm@fiastl.net](mailto:contcomm@fiastl.net).

Want to Buy

25B consoles or any other WE items, paying up to \$7500. Larry Drago, WELI, POB 85, New Haven CT 06501.

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Want to Buy

Aphex Dominator I (1), Aphex aural exciter II (2), Aphex Compellor I (1); Orban Optimod 8100 (2), Orban Parametri EQ 622B (2). Bud Giordano, WODS, 5 Margaret St, Canton MA 02021. 617-787-7589.

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

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RCA 77DX & 44BX, will pay \$500 to \$1000. Larry Drago, WELI, POB 85, Hamden CT 06514. 203-230-5255.

77 & 44's, paying up to \$2000 for RCA mics. Larry Drago, WELI, POB 85, New Haven CT 06501.

RCA 77-DX, 44-BX, KU-3A's, WE-639's, On-Air & recording lights wanted, top dollar paid! 615-352-3456, FAX: 615-352-1922.

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On-Air signs from 50's & 60's, paying \$200 for ea sign in any condition. Larry Drago, WELI, POB 85, Hamden CT 06514. 203-230-5255.

Old Audio/Audio Engineering magazines prior to 1953. Mike Stosich, Esoteric Sound, 4813 Wallbank Ave, Downers Grove IL 60515. 630-960-9137.

RCA on-air or stand-by lights, paying \$200 ea. Larry Drago, WELI, POB 85, New Haven CT 06501.

### MONITORS

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Tascam 38 8 trk 1/2" in excellent cond plus 4 reels of tape, \$725/BO +shpg. S Nichols, Nichols Comm, 263 Sherburne Pl, Lyndonville VT 05851. 802-626-4148.

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Burke TC-8 remote control, need studio & xmtr units, must be in excel, reliable cond, must include manuals also. Call with price. Joe Cutroni, WCUW, 910 Main St, Worcester MA 01610. 508-753-1012.

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Radio/TV shop test equipment, excel cond, call for list. Ed Davison, 1129 Willowbrook Dr, Springfield IL 62707. 217-793-0400.

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Continental 314-R 1 KW, new tubes, gc cond, needs minor repair, 11 yrs old, w/manuals, \$3000. R Thompson, WQXY, Main St, Hazard KY 41701. 606-785-3129.

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Also, need an individual for a 20-hour  
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degree required, and Bachelor's  
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ing, or a related field preferred. Three  
years hands-on technical broadcast-  
ing and/or production experience;  
demonstrated knowledge of audio,  
recording and radio production theory  
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Massachusetts Ave., NW, Washington  
DC 20001-3753. Fax: 202-414-3047.  
[employment@npr.org](mailto:employment@npr.org)  
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of WOR's transmitter plant and Studio  
Complex. Requires on-call status and  
all-hours transportation available to  
reach the transmitter site in Lyndhurst,  
NJ. Resume & cover letter to [personnel@wor710.com](mailto:personnel@wor710.com) or WOR Radio, 1440  
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Personnel - **NO PHONE CALLS.** FM  
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## EMPLOYMENT

### HELP WANTED

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equivalent experience required. SBE  
certification desirable. Three years  
broadcast and/or recording studio  
equipment maintenance experience;  
demonstrated ability to troubleshoot  
to the component-level; and profi-  
ciency using a PC and word process-  
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ware required. Knowledge of Auto  
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mizes mission critical digital audio net-  
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on-air delivery. Bachelor's degree in  
Audio Engineer, CS, or related field,  
or equivalent experience required.  
Two years hands-on experience con-  
figuring and troubleshooting net-  
worked computers; demonstrated  
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Broadcasting, sound reinforcement,  
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Jackson Heights NY 11372. 718-  
969-5224. [radiomitch@webtv.net](mailto:radiomitch@webtv.net).

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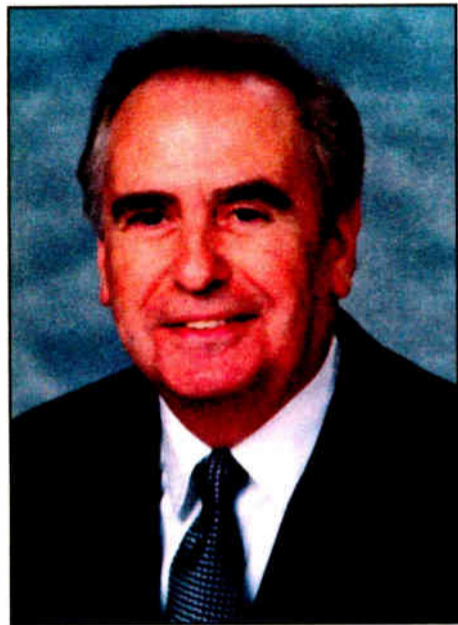
**'Radio Wayne' remembered**

Dear RW,

I read in the *NewsByte* section on **Radio World Online** of the passing of Wayne Cornils. I was sad to read of the news, as I'm sure would be anyone whose path coincided with Wayne's.

I met Wayne Cornils in Denver in 1973. I was running KSPN-FM Aspen, Colo., and he owned a radio property near Boise, Idaho.

When next I saw him, he was the organizer, driving force and professional presence driving the first of the old NAB Fall Radio Shows. This was Chicago in, I believe, 1977. To this day I believe that those "programming-oriented" conferences were the best ever for all.



Wayne Cornils

Wayne was a gentleman and a professional — the ultimate compliment in our industry.

Thanks, Wayne, for showing us all the best way to do it — always.

*Dale Tucker  
RW Advertising Sales  
Representative, U.S. West  
Citrus Heights, Calif.*

**500 kW powerhouses**

Dear RW,

The story in your Feb. 16 issue on the history of WLW(AM) by Randy Stine ("WLW Rings in New Year") was most interesting, but he left out a very important detail.

WLW was one of the few radio stations that broadcast for a while with 500,000 watts. Two others were WGY(AM), General Electric in Schenectady, N.Y., and XERA, Dr. John Brinkley's station, with studios in Del Rio, Texas, and a transmitter across the river in Mexico, where he could evade the dictates of the FCC.

Before World War II, at my home in New Hampshire, the daytime signal of WGY came in like it was in the backyard. It became my inspiration to get into radio broadcasting, 1939-1953, less the years for war service.

*George Michael  
Merrimack, N.H.*

**Enjoys being wired**

Dear RW,

I really enjoy Steve Lampen's *Wired for Sound* articles in *RW*.

I work as an electronic engineer for a large electric utility in the Pacific Northwest. When I was younger, I worked for several radio stations, and have always liked radio, TV and the world of broadcasting. **Radio World** lets me keep up with things.

These days I'm one of four electronic engineers tasked with in-house support and training to our field maintenance people (engineers and craftsman). Your articles are a real help, there is so much to learn.

*Ken Heine  
Former Radio Engineer  
Current Field Support  
Electronic Engineer  
Vancouver, Wash.*

**Sin is sin**

Dear RW,

I write to take exception to the article about Lyle Henry ("Group Reaches Out to Gays," *RW*, May 24).

I do not necessarily take exception to its publication; I take exception with some of the viewpoints of the subject of the article and I question *RW*'s purpose in publishing them.

In particular, I take exception to the view that homosexual proclivities should be considered an advantage to an employer.

I stand against the view that a homosexual is a type of person, but in fact a person who chooses to commit a particu-

**Wayne Cornils:  
A Prince  
Among Men**

The recent passing of the RAB's Wayne Cornils left our industry saddened. As noted elsewhere on this page, he seemed to have a personal impact on everyone he touched.

Cornils reached out to a member of our editorial staff several years

ago. She was working as a free-lance writer for *RW* at the time, not new to the radio industry but certainly new to covering the industry as a beat — and new to writing anything longer than a 40-second news story for air.

Cornils was listed as a contact for a story about the RAB. The reporter called him for a quote, and Cornils must have chuckled to himself at the evergreen nature of the reporter's questions and presentation.

Despite a busy schedule, and what must have been impatience and frustration at the reporter's fumbling, Cornils answered the reporter's questions graciously and patiently.

And what a kind man this "contact" turned out to be. His offers of "call anytime" and "I can hook you up with a person to talk to about that" helped to shape the writer's self esteem, to sharpen her skills and blossom into a more self-confident reporter.

Cornils' initial gentleness and encouragement helped propel a radio newperson stuck in a standstill job into a new career as an editor.

Ironically, Cornils never matched this reporter's name several years back to a face he saw many times in the halls of the Las Vegas Convention Center during NAB. But that never stopped him from flashing his hallmark smile along with that knowing nod.

Seems that's just the way he was.

—RW

lar sin. That a prospective employer should view this type of behavior as a positive would just prove to me the immorality of that employer.

If I admitted to an employer that I tend to steal office supplies for my own use, I don't think *that* would be considered an advantage. Sin is sin.

I pray that Mr. Henry will one day see the error of his ways in this area. He may be an outstanding person in most other areas of his life. I may and probably do commit more sins than he does. I do not, however, parade them in print (except, perhaps, in confession and appeal for forgiveness) or to a prospective employer expecting him to consider those tendencies an advantage to him.

I realize this may be a new concept to some: that homosexuality is not an "orientation" but a choice. Since *RW* is likely read by impressionable young minds, it would seem prudent to steer clear of this area and stick to the fine technical articles that are your hallmark.

*Mike Shane  
Operations Manager  
KCRO(AM)  
Omaha, Neb.*

**Thanks!**

Dear RW,

Please accept our sincere thanks for the glass "Cool Stuff" award trophy. We were totally unaware that a physical trophy existed.

The "Cool Stuff" display card presented to us at NAB2000 has been framed and mounted, and this trophy just adds to the effect of being a winner in such prestigious company.

*Ron Paley  
President, General Manager  
MediaTouch  
Ocala, Fla.*

**Write to Us**

**RADIO WORLD  
READER'S FORUM  
P.O. Box 1214  
Falls Church, VA 22041  
radioworld@imaspub.com**

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**Radio World**

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# THE WHEATSTONE D-5000

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## DIGITAL AUDIO CONSOLE

**HIGH TECH** — FOR LESS!



***This new D-5000 audio console from WHEATSTONE gives you our top-of-the-line D-600 digital technology—at a modest price!***

- Totally modular design lets you hot-swap all modules for on-air servicing; even DSP and CPU functions reside on easily changed modules.
- Traditional user interface with clean layout and familiar control surfaces.
- Available with up to 26 input modules (any mix of analog and digital).
- 4 stereo mix busses, each with digital and balanced analog outputs.
- Flexible mainframe layout options.
- Inputs can be field-converted from analog to digital (and back) through a simple daughterboard change.
- Choice of 32, 44.1 or 48KHz console clock rates (can be synced externally).
- Serial port allows true integration with routers and automation systems.
- Dedicated phone module with DSP generated MXM—two modules can be combined for up to 4 MXM sends.
- 8-character alphanumeric source displays above each fader.
- All channel fader, display and switch settings are addressable via the serial port for remote control and router/automation communication.
- Exclusive VDIPTM software lets you configure console with a laptop PC (no pulling modules, installing jumpers or setting dipswitches). Once configured console runs standalone.



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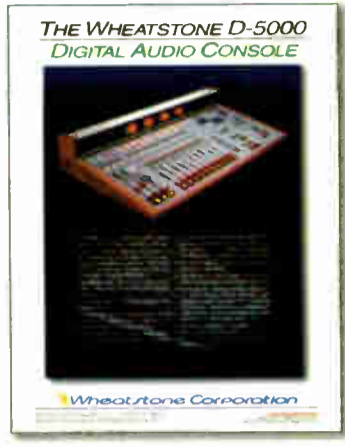


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D-600 technology at a modest price; serial control for most automation systems, 8 character alpha source displays, hot-swap modules.



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Serial interface, digital domain metering (fullscale digital peak plus simultaneous dual ballistic VU), sample rate conversion on all digital inputs, plus selectable console clock rates. And you can get one for less than \$7900!



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A digital AES router with all the routing capability you need today—plus the expansion you'll definitely need tomorrow. Handles up to 256 AES inputs and routes them to 256 outputs. All switching done in the digital domain, with sample rate converters on every digital input, plus a complete family of X-Y and input controllers for every need.



**TEAM PLAYERS** — Wheatstone D-600 and D-700 CONSOLES command the ATC-1 digital router; the ROUTER talks to the 8-character console channel displays. Station AUTOMATION can talk to BOTH.

## WHEATSTONE'S D-700

Serial protocol is only part of the story! Each input channel can also have two stereo aux sends, four bands of EQ, compression, assignable ducking, and digital input gain control, panning and HPF—with all settings stored and recalled in up to ninety-nine security protected presets—so your talent can be up and running in just seconds. Presets can even recall bus assigns, source selection, mode, channel ON/OFF and fader settings—all through simple front panel control.

