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**Rambling Without Gambling**

William O'Shaughnessy reflects on the end of a dynasty at WOR.

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**Five Stations, No Tower**

Iceberg Media.com is no bare-bones basement Webcaster.

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# Radio World

The Newspaper for Radio Managers and Engineers

December 6, 2000

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▼ Ben Hill wonders whether radio groups are ignoring qualified minorities in their search for job candidates.

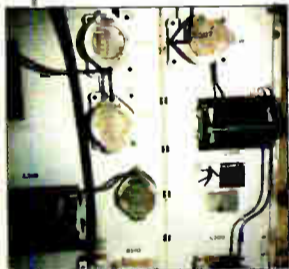
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▼ The AudioScience ASI4215 sound card, Adaptec SCSI cables and getting the most out of PZM mics.



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

## CFA, EH: Crows or Swans?

by Ted Nahil

Tests may soon show whether two new antenna designs would be viable for AM broadcasters in the United States.

Manufacturers of both systems claim that, because these antennas are small and they do not require the customary ground system, radio stations may well benefit from reduced land use and easier zoning approval for building antenna sites.

In the meantime, controversy reigns over performance claims made by manufacturers of the CFA, or Crossed-Field Antenna, and the EH antenna, which takes its name from the two fields of propagation, the E or electric field and the H or magnetic field.

Inventors of both designs have tried to allay concerns raised by station and consulting engineers, manufacturers, the Institute of Electrical and Electronics Engineers Inc. and the NAB.

But the companies behind these antennas have yet to prove their designs are suitable for use in the United States as replacement radiators for the standard vertical antenna with wire ground system.

One of the antennas, the CFA, is being

See ANTENNAS, page 6 ▶

## A Times Square Combo

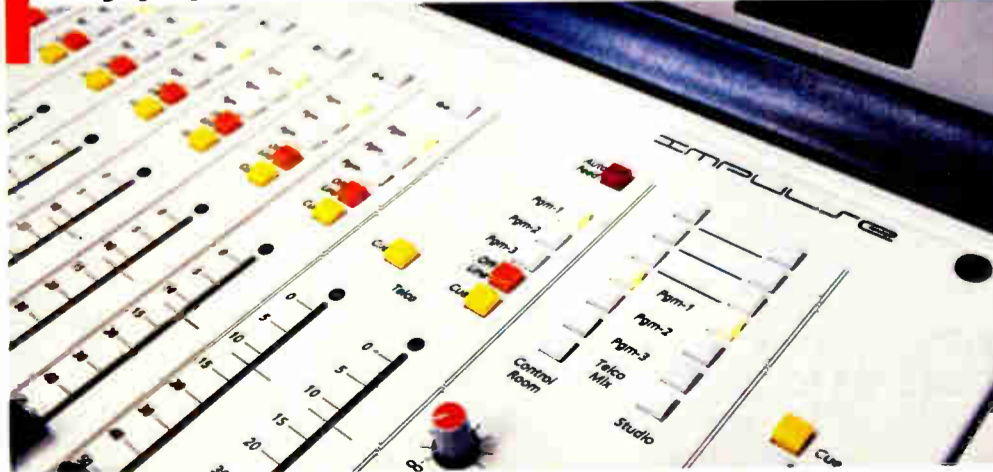


Clear Channel has switched on a five-station auxiliary site atop New York's spectacular new Condé Nast building at 4 Times Square. RW takes you on a photo tour in this issue. Shown: the Shively Master FM Antenna is on the inner tower. Visible are the vertical and horizontal elements, with round radomes on the junctions. Each bay of the three-bay antenna has four elements on each face of the four-sided tower.

Page 24

Photo copyright John Lyons, used with permission

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# ◆ NEWSWATCH ◆

## Charges Fly in Newsletter Suit

Clear Channel Communications is suing the trade newsletter Inside Radio and its publisher, Jerry Del Colliano. The broadcast group has alleged that Inside Radio tried to force Clear Channel to buy the publication.

The suit, filed in U.S. District Court in November, charges Del Colliano with a "vicious and concerted campaign of coercion, public vilification and harassment."

Clear Channel Radio CEO Randy Michaels said Del Colliano has been using the newsletter to "disrupt our business and

cause our employees to question the integrity of their company."

Saying competitors can use the information to attract Clear Channel employees and challenge Clear Channels business, Michaels said, it's "time to put an end to this harassment."

Del Colliano responded with a statement in his publication, "If Clear Channel employees question the integrity of Clear Channel, it's for their own reasons, not legitimate news stories published in Inside Radio."

Before the lawsuit was filed, Inside Radio and Clear Channel traded jibes over contest-rigging allegations.

The man who made the allegations,

Andy Martin, lost in his bid for a seat in the Florida state senate in November.

Before the election, Martin said he filed consumer fraud charges in all 50 states against the broadcast group (RW, Nov. 22).

Clear Channel said the claims were a promotional ploy and Martin's allegations were "without merit and should be subjected to intense scrutiny."

## NRB Sets 2001 Convention Dates

National Religious Broadcasters confirmed dates for its 58th annual conven-

tion, Feb. 10-13, 2001 in Dallas.

The NRB convention will feature speakers, authors, humorists and musicians. Saturday evening's opening general session is to be emceed by humorist Chonda Pierce and feature a message from Pastor Greg Laurie of Harvest Ministries, Riverside, Calif.

Plans for the 2001 convention include educational workshops featuring industry experts.

Workshop topics include Internet Technology, E-commerce, Online Ministry and Promotions; Biblical Foundations for Fundraising; and Transforming Christian

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# WHEN LIGHTNING STRIKES...



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# FCC Report Card for Year 2000

*LPFM, Streamlining, EEO Were Big Rule Changes This Year*

by Leslie Stimson

**WASHINGTON** The end of the year is a suitable time to take stock of notable rule changes affecting radio that were made by the FCC, and to consider the issues left pending for the new year.



The FCC's new home in Washington

**LPFM:** In January, the FCC created rules for a new class of LPFMs that would eventually allow an undetermined number of 100 W stations on the air. Low-power supporters had pushed for 1,000 W stations. By fall, the FCC was reviewing about 1,200 applications and expected more to arrive by the end of the year.

Channel protection of existing stations from LPFMs has been a hot issue for broadcasters, who believe all current channel protections, including third-adjacents, should be protected from interference. In September, the FCC gave temporary protection to third-adjacent channel protection while it conducts interference tests.

NAB, National Public Radio, the Consumer Electronics Association and the International Association of Audio Information Services believe the plan would allow more interference on the FM band. Legislation to restore full channel protection was attached to an appropriations bill before Congress recessed for the elections. It was unclear where the LPFM measure stood as members returned for a lame-duck session.

**Technical streamlining:** The commission released further changes to streamline radio's technical rules. One major change involves Class C FM stations operating at heights above average terrain below 450 meters. A new class C0 (C Zero) will apply to stations with HAATs between 299 and 450 meters. Class Cs fitting into this category now would have the opportunity to upgrade, or be reclassified if another applicant has a conflicting demand for the spectrum.

Because Class Cs are protected to their full 60 dBu coverage contour, the FCC felt the reclassification tied to a specific demand for underused spectrum better served the public interest. Unlike the original proposal, stations would be reclassified from C to C0 only if a conflicting demand for the spectrum is

expressed by a so-called "triggering" application for an allocation, upgrade or channel change.

Reclassification would be triggered only where a specific, conflicting demand for the spectrum is expressed. An affected Class C station then will have an opportunity to preserve its Class C status by obtaining a construction permit for facilities that meet or exceed the new Class C minimum antenna height.

The FCC expanded the types of facility changes covered by expedited one-step licensing procedures.

Issues deferred included stations negotiating their own interference agreements and a new Point-to-Point terrain-dependent signal propagation methodology.

The commission also deferred action on making any decisions on giving relief to Class D stations (grandfathered under 100 W) until the LPFM rules are finalized.

**EEO:** While broadcasters say they agree with the spirit of the new EEO rules, they say the changes have increased their paperwork obligations.

Stations are required to widely disseminate information about job openings, including Web postings. Stations also may design their own outreach programs; but they must keep record including race, ethnicity and gender of applicants. They must keep an annual EEO report in their public file.

The FCC also reinstated the requirement that stations file annual employment reports.

**Enforcement Bureau:** The commission a year ago combined what had been separate enforcement activities scattered among several bureaus. Assessing the performance of his staff this fall, new Enforcement Bureau Chief David Solomon said he believed the bureau's action's in calendar year 2000 demonstrated that the FCC is serious about enforcement.

More than 180 pirate radio stations were shut down since the bureau began. Solomon said this was the highest number ever achieved.

The bureau issued or proposed indecency fines against 10 stations for a total of more than \$100,000. Broadcasters have long said the commission's indecency vs. obscenity guidelines are hard to understand. Solomon said new guidelines

should be out "relatively soon."

**Personal attack, political editorial rules:** A federal appeals court ordered the FCC to repeal the personal attack/political editorial rules before the election ad season began. NAB and RTNDA had fought the rules for more than 20 years, saying they were obsolete and chilled free speech.

The rules were part of the now-defunct Fairness Doctrine. The personal attack rule required stations to notify a person whose honesty, character or integrity had been attacked and give that person the chance to respond.

The political editorial rule required licensees that endorsed or opposed candidates to give them a chance to respond.

The FCC wanted the rules temporarily suspended while it studied station behavior during the elections. FCC Chairman Bill Kennard said the commission still intends to determine whether the rules should be reinstated as part of broadcasters' public interest obligations.

**Pending:** Kennard said the staff was working on a new definition of a broadcast market for ownership purposes. Kennard wants to make the FCC's antitrust review process more open and predictable.

Also pending at the close of the year were the rules governing FM translators for the companies developing satellite-delivered digital audio broadcasting technology. ●

## NEWS MAKER

# Kennard on Internet Voice Traffic

*Chairman Compares Net Telephony to Early Radio; Promises A Light Hand*

*FCC Chairman Bill Kennard has said many times during his tenure the commission is backing off regulating the Internet, to give its services time to develop.*

*The commission has begun a broad Notice of Inquiry on whether or how it should regulate the "pipe" getting consumers to the Net, such as cable and other high-speed platforms. But overall, it seeks to reduce barriers to consumers and to those who wish to provide various Internet services.*

*What follows are excerpts from a speech Kennard gave to attendees of the "The Voice Over Net Conference" in September.*

As you know, Bill Paley was the father of the modern business of broadcasting. In 1928, Paley's father

See KENNARD, page 12 ▶

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# A Book Lover's Holiday Gift List

Let's reach over to the bookshelf and see if we can find some recent titles you might consider putting in someone's stocking this year.

"Networking: A Beginner's Guide" by Bruce Hallberg gives the basics in that technology, including design and configuration, cabling and hardware, WAN connections, protocols, remote access and security matters.

You'll learn how to use hubs, repeaters, routers and bridges; work with protocols like TCP/IP and NetBEUI; set up network client computers; and install NetWare 5, Windows 2000 Server and Red Hat Linux.

This is a 365-page soft-cover instruction book with clear diagrams, a comprehensible format and a companion Web site. It is published by Osborne/McGraw Hill; ask your bookseller for ISBN # 0-07-212226-9.

It lists for \$29.99 and is available at a discount to SBE members; visit [www.sbe.org](http://www.sbe.org) and click on "SBE Bookstore."

\*\*\*

On the programming side, consultant Valerie Geller writes "The Powerful Radio Workbook," a soft-cover from M Street Publications.

This book is about how to aircheck. If

you manage radio talent and want to get the most out of them in how they prep, perform and plan post-production, it will walk you through the process: where to find good people; what questions to ask; show prep tricks and rules; performance points; how to aircheck and how to create an audition tape.

It's a book you scribble in; Geller gives us lots of worksheets, checklists and evaluation forms. Programmers will get the most out of it; but the book is suitable for ambitious air talent.

Some tips seem obvious to me, but there's a lot of good stuff. Geller knows what she's writing about. It's 280 pages, although it could have been condensed substantially.

"The Powerful Radio Workbook" retails for \$39.95. Call (800) 248-4242 or ask your bookseller for ISBN # 0-9647930-5-9.

\*\*\*

Teachers will like the fifth edition of "The Radio Station" by Michael C. Keith, published by Focal Press. So will radio managers willing to hire inexperienced employees.

Hand this to someone who is starting out or is familiar with only one part of the station. It walks you through management, sales, news, programming, engineering,

research, promotion, production and syndication. Topics are touched on broadly. Look elsewhere for intensive training. But it's a friendly overview.

Keith uses lots of visuals, including actual station rate cards, program guides, hourly programming clocks, logs, avail-



A contestant is unable to answer a question on 'Truth or Consequences.' From 'This Was Radio'

ability reports and so on. It also discusses the impact of consolidation, satellite radio and Net radio.

The paperback is 336 pages and is a bargain at \$29.95. Call (800) 366-2665 and ask for ISBN # 0-240-80388-4.

\*\*\*

If you're weary of listening to Rush, Don, Laura and friends, go back in audio time with "This Was Radio," a set of two CDs packed inside a big hardcover book filled with photos.

The CDs contain lots of excerpts from radio's Golden Age. Sure, we've all heard the most famous bits: Abbott and Costello figuring out "Who's on First," Fibber McGee opening that closet door

## From the Editor



**Paul J. McLane**

and Herbert Morrison's riveting news report of the Hindenburg exploding.

But the collection lets us sample the sounds of Il Duce, the Italian dictator Benito Mussolini; of Sen. Huey Long of Louisiana, once considered the most powerful politician after FDR; of Bob Hope visiting a Marine Base; of H.V. Kaltenborn, Eddie Cantor and Ed Wynn.

Mae West and Don Ameche play Adam and Eve in a "saucy sketch that gets Ms. West banned from radio." Marlon Brando is heard in a scene from "Streetcar Named Desire," and Marilyn Monroe almost gets married to Charlie McCarthy in her only radio role.

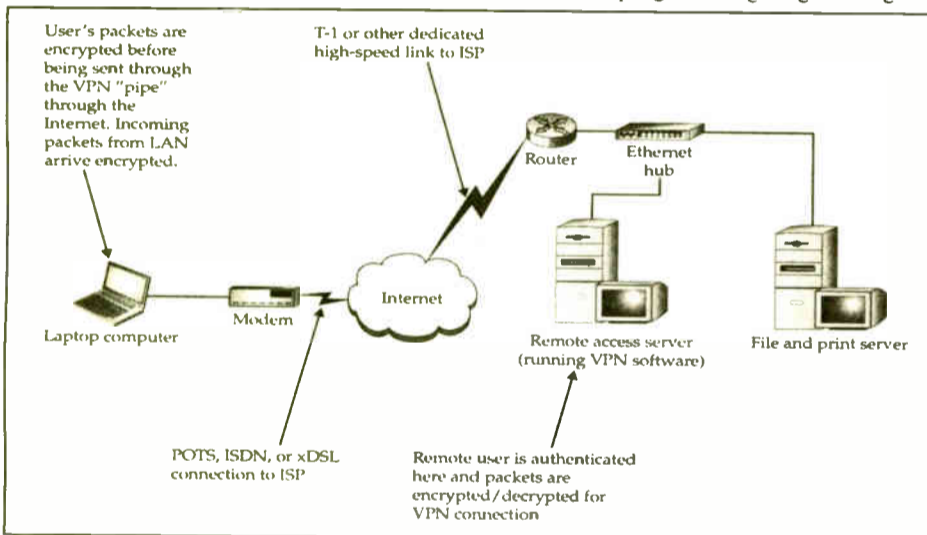
Like many nostalgia books, this one forgets that radio could also be used for less appealing purposes. There is no mention, for instance, of controversial Charles Coughlin, the "radio priest" who boasted 30 million listeners at his peak and was seen by many as a purveyor of isolationism and anti-Semitism. I would like to have heard a clip.

But the book/CD set is a lovely gift. The 68-page book contains great photos, including some super "backstage" shots of cast and soundmen plying their trade.

Remember, these are program excerpts. If you prefer full shows, you'll find lots to choose from at big retail bookstores or online. Many old-time classic programs are now available on cassette and CD.

"This Was Radio" by Ronald Lackmann is published by GAA Corp. and retails for \$39.95. Ask your bookstore for ISBN # 07413-0038-9.

Happy holidays.



A typical VPN connection. From 'Networking: A Beginner's Guide'

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GUEST COMMENTARY

# 'Fly in the Milk' Engineer

## An African-American Engineer's Perspective

by Ben Hill

**PHILADELPHIA** I stood in front of my CCA transmitter the other day, wondering why it was as temperamental as it is.

I thought back to the days when engineers spent the better part of their days at the site, taming these beasts, being right there to catch the intermittent problem. Engineers even had rooms and showers.

I'm sure some of you have been around an old installation or two to marvel at how much time was spent with so many engineers to keep the plant sparkling like a museum.

Engineers have diminished in numbers at an alarming rate. High-tech data delivery and communication applications plus Internet opportunities have drained the numbers of recruits to a minimum and emptied the transmitter rooms.

Studios and offices have moved from towers to downtown locations and we followed, leaving the sites behind.

### Remote control

Advances in remote-control capabilities were instrumental in this mix, as were combo jock operations. So for us, due to our hectic schedules, we may get to the site weekly or monthly for a visit — maybe even as infrequently as once a season. Also, consistent maintenance schedules for studio and broadcast gear have become much harder to keep.

There just aren't enough qualified personnel available to fill the needs.

We need fresh, new minds in this business. We must find them or our members will dwindle to very low numbers.

Can we increase these numbers? Can we provide the platform or vehicle to fill these jobs? Can we give minorities and women many opportunities to compete for these jobs? Can we fill this coming void?

I was purely a product of affirmative

action in the early '70s, getting a break because the station, with a heavily ethnic audience, wanted more representation in its hiring practices to reflect the audience it served.

a so-called "fly in the milk."

African Americans and Hispanics make up nearly 33 percent of the population in the United States, but only 15 percent of employees in radio, accord-



Ben Hill

This was truly a noble idea, to the point that I was treated as a prodigy (but I was no prodigy). I was a timid 19-year-old who could fix tape machines and radios, but who had never seen a cart machine or a wily sales manager! I was the "fly in the milk," and boy, was I in for an education!

I look back on that chance I was given and wonder today if those kinds of opportunities are still present. I've been asked over the years, in many places, "How do you get into the radio business?" I will venture to say most of us would respond, "Go to college or tech school and intern at a station."

Or, "If you want to be a jock, go to small-town U.S. and work for peanuts." Most of us would agree it's a hard business to get into no matter what position is pursued.

The world for minorities shows lower numbers of college attendees and graduates and even lower numbers for employment in the radio business, each

ing to trade publications and Encarta Africana, the African-American version of Microsoft's Encarta encyclopedia.

In many large markets, the city populations are more than 50 percent

minority, but many can't seem to find jobs outside of the urban-formatted stations, whether they are rookies or seasoned vets.

Women in engineering make up a pitiful 2 percent, and less than 15 percent of those women are in upper management, according to trade publications and Encarta Africana.

But women represent more than half of the audience and population. Can we fill the void? Yes, we can.

### Career fairs

Career fairs are everywhere and your station sometimes has a booth or helps sponsor the event. Minority newspapers and traditional black colleges do a great job and send grads to job fairs. Inner-city training programs send public service announcements to stations. Check with the news/PSA directors for leads.

At Clear Channel Communications Inc. in Philadelphia, we have a newly formed Diversity Committee to help recruit minorities into radio.

Even career day at your child's high school will help find and inspire young people toward the radio biz.

Well, time to get back to the CCA. It doesn't see me often enough and it's acting a little timid. It needs some TLC.

Go visit your transmitters more often. They miss you. And go find more people for this business. We need them.

*Ben Hill is chief engineer of WDAS-AM-FM, Philadelphia. Reach him via e-mail at BENEHEN@aol.com*

*RW welcomes other points of view at radioworld@imaspub.com*

Photo: Paul J. McLane

## NEWSWATCH

► Continued from page 2  
Radio Powerfully.

Special events during the convention include the Program Showcase highlighting the best new Christian TV and video programs, the Intercollegiate Religious Broadcasters Student Radio and TV awards and the Al Sanders Scholarship essay contest winners. IRB students also will be able to participate in a job fair featuring more than 20 employers.

### IAAIS Board Names McLane, Garver

**ROANOKE, Va.** The International Association of Audio Information Services has named three broadcast

industry professionals to its board of directors.

Radio World Editor Paul McLane and actress Kathy Garver were named as public directors.

McLane has 21 years of experience in radio. He has done volunteer reading for the Delaware Association for the Blind, and worked with radio reading services as a subcarrier receiver salesman.

Garver is an actress and voice talent who played "Cissy" on the TV show "Family Affair" and appeared in the movie "Apollo 13."

Leticia Graham-Corona, a volunteer coordinator for Sun Sounds Radio-Reading of Arizona, was appointed to fill a board vacancy and will serve as a member director through June 2001.

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# Antennas

► Continued from page 1  
used overseas, but neither has been FCC type-certified.

The CFA was developed in the 1980s by Scottish university professor Brian Stewart, Dr. Maurice Hately and one of his students, Dr. Fathi Kabbary. Patents are held only in the names of Hately and Kabbary, who share equally in any profits, said Robert Richer, president of Crossed Field Antennas Ltd.

Richer and Kabbary formed CFA Ltd. in Farmington, Conn., in 1999, to pursue worldwide distribution for the antenna. Richer said the company holds CFA distribution rights for everywhere but Egypt.

## EH on the scene

Debate over the CFA has been going on for some years. Newer to the discussion is the EH antenna.

Ted Hart, its engineer and inventor, said his product is an evolution of the CFA. Hart said his work on the EH antenna dates to 1998. He has since formed EH Antenna Systems in Eatonton, Ga. Prior to that, Hart wrote articles about the CFA for an amateur radio publication.

Hart is CEO of the company and Bob Zimmerman is vice president of engineering.

Representatives for both Crossed Field Antennas Ltd. and EH Antenna Systems have spoken at conventions in recent months to try to prove to broadcasters that the designs, which both manufacturers claim to be revolutionary, work as promised.

Yet engineers continue to question those claims.

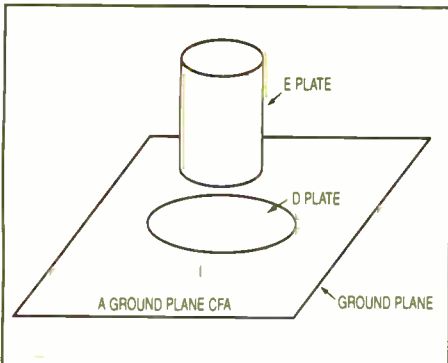


Fig. 1: CFA antenna

Caution appears warranted. According to several antenna consultants contacted by RW, neither company has demonstrated, using controlled and accepted test methods, that their antennas work and are a viable replacement for the familiar AM broadcast tower.

## Displacement current

The inventors of both antennas have based their designs on the creation of a displacement current within the antenna. This displacement current is formed by exciting an electric voltage across the capacitive coupling between a base and a cylinder or cone portion of the antenna that, in turn, produces a magnetic field.

RF or electro-magnetic radiation comprises both an electric field and a magnetic field.

At the heart of the debate over the viability of these antennas is how the inventors are interpreting the mathematical theory contained primarily in Maxwell's equations of how antennas work.

The CFA and EH proponents say their designs are revolutionary and that they should be viewed as a radical departure

from conventional antenna theory. (See sidebar, page 7.)

They claim broadcasters can achieve the same coverage area and eliminate real estate-hogging AM tower arrays by using these smaller, shorter antennas.

Critics say these claims are not supported by data and that both designs are based on an incorrect interpretation of antenna theory.



Ted Hart atop the newest EH antenna. In the background are earlier designs

In a standard, vertical wire antenna, the electric and magnetic fields combine to form an electro-magnetic (EM) wave in the far field at a finite distance from the radiator.

Standard antennas also create separate electric and magnetic fields that are not in phase in the near field. These near fields are the cause of substantial EM interference.

Supporters of the CFA and EH antennas claim the products create EM radiation directly at the antenna, eliminating or greatly reducing the separate E and H near-field radiation and EM interference.

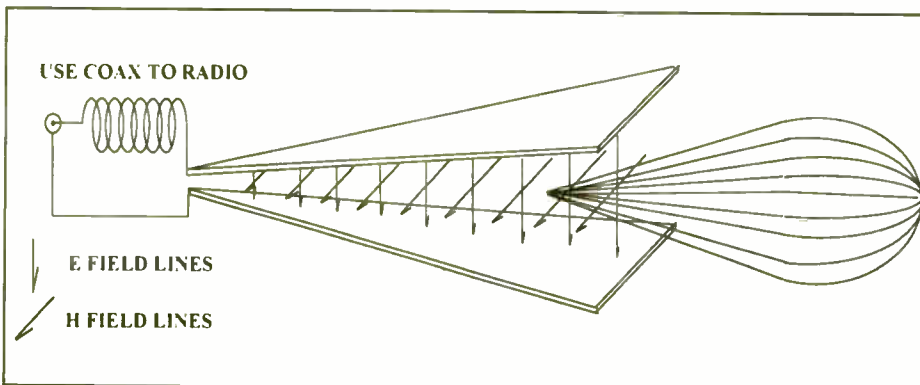


Fig. 2: EH antenna

Electrically, both of these antennas are extremely short, generally under 8 percent of a wavelength. Most experts claim that their behavior is simply that of short, fat antennas, which tend to be poor radiators.

Poor radiators may be inefficient or have narrow bandwidth or they may produce lots of skywave signal or react unpredictably to weather changes. The tests planned for both antennas will help determine whether this is the case with the CFA and EH antennas.

The CFA uses a disc that acts like a capacitor and a modified cylinder, each fed separately (see Fig. 1). The EH anten-

na uses a single cone (Fig. 2). Both manufacturers claim extraordinary improvements in bandwidth and efficiency.

Part of the efficiency dispute stems from differences in fundamental definitions used by the inventors and the critics.

For example, the CFA inventors say that, because no power is wasted in the creation of any near-field energy, their antenna is automatically more efficient

## Crossed Field Antennas Ltd.

**Principals:** Robert Richer, president; Maurice Hately and Fathi Kabbary, other investors. Richer is president of the company; Kabbary and Hately, the co-inventors, are "involved on a daily basis."

**HQ:** Farmington, Conn.

**Founded:** 1999

**Contact:** (860) 676-0051, Fax (860) 677-9639

## EH Antenna Systems

**Principals:** Ted Hart, CEO; Bob Zimmerman, VP of engineering. The company is a division of R&A Management LLC.



Ted Hart

**HQ:** Eatonton, Ga.

**Founded:** 1998

**Contact:** (706) 484-1984

**E-mail:** w5qjr-@netcommander.com

But the public will soon get a chance to learn more. Consulting engineering firms Hatfield & Dawson and duTreil, Lundin & Rackley will supervise testing of a demonstration CFA in Shropshire, England, where a 1 kW CFA is being built in an open field (RW, Oct. 25, p. 3).

The test site is not near any existing structures.

"One of the criticisms of the CFA is that it is merely having its signal re-radiated by other structures," said CFA President Robert Richer. "This will eliminate that concern."

Richer said construction was to be complete by mid-November and that test results should be known by the end of December.

## Recommendations

"(We were) asked to recommend a test plan and supervise/conduct the necessary tests," Dawson said. "(We) have provided such a plan, which was reviewed by a number of others in our firms and elsewhere, and we will supervise/conduct the tests we have recommended."

Anecdotal data collected by some of the inventors and users of the CFAs in operation overseas lack substantive measurements including field intensity readings and skywave performance, because the conditions under which measurements have been taken have not included critical baseline parameters such as input power determination, observers said.

Data collected using the model built by CRC indicate numerous shortcomings in the CFA's performance, said Canadian radio scientist Belrose. According to his tests, the antenna is difficult to tune and has impedance characteristics of an electrically very small antenna.

To real-world broadcasters, one of the most critical issues will be the antenna's scalability. If an antenna is scalable, it works across a band of frequencies with equally predictable performance.

Any new antenna to be sold for this market would have to conform to FCC regulations pertaining to efficiency and skywave radiation. However, getting that approval may be difficult because another major issue standing between

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# Antennas

► Continued from page 6

the proponents' and opponents concerns how the antenna will be modeled.

Standard broadcast antennas are modeled using computer programs that were developed based on well-documented antenna performance and accepted mathematical and physics principles. FCC definitions of conductivity and inverse field characteristics of standard vertical antennas are based on these data as well as the empirical data collected over the years describing standard antenna performance.

Critics say today's computer models based on classic physics and antenna theory such as Maxwell's fourth equation accurately describe the performance of the CFA and EH antenna.

The inventors insist that these classic computer models, among them NEC-4D, cannot be used. They think the physics behind the NEC-4D modeling program, for example, does not account for the displacement current in the antenna. Displacement current is what they base their claim on about how the antenna works.

## You Can Look It Up

Hankering to brush up on Maxwell's Fourth Equation? Looking for an elusive reference on Poynting Vector synthesis? Forgot Ampere's Law?

Useful resources include a college physics book, Reference Data for Radio Engineers or The NAB Engineering Handbook.

You can also check out these books, articles and Web sites for information on electromagnetic theory, fundamental concepts using a minimum of mathematics, and the CFA and EH antennas.

- Information on Numerical Electromagnetic Coding is provided at the University of Missouri-Rolla Web site at [www.emclab.umr.edu/](http://www.emclab.umr.edu/) Click on "Numeric Electromagnetic Modeling" under EMC Modeling Tools.

- The presentation given by John Stanley at the IEEE symposium, including text, slides and AVI files, is available at <http://members.aol.com/jnrstanley/>

For information relating to the IEEE symposium, go to [www.ieee.org](http://www.ieee.org)

- The original CFA patent can be researched at [www.uspto.gov](http://www.uspto.gov) Search for patent # 5,155,495.

- A discussion of how electromagnetic waves are created is included in the article "Antennas without Maxwell," Journal of Electrical and Electronics Engineering, Australia, Vol. XVIII, No. 4 (December 1999), by H.E. Green.

- Recent articles about the CFA and EH antenna systems are archived in the Reference Room in Radio World's Web site at [www.rwonline.com](http://www.rwonline.com)

- Two sites that require you to register and subscribe to online publications (one for free, one for a fee) are [www.ednmag.com/ednmag/](http://www.ednmag.com/ednmag/) and [www.antennex.com](http://www.antennex.com) Both have articles on the CFA antenna and on electromagnetic theory and practice.

Some observers dispute these claims. For example, Silliman, Hatfield, Belrose and Stanley maintain that NEC-4D modeling shows the antenna to be what they

said Rackley. "One thing is for sure: Conclusive test results will give at least one side in the debate cause to go back and rework their analysis."

erately well, just not with high efficiency. Such short, fat antennas can also exhibit fairly reasonable bandwidth. On that basis, the antenna very well may have useful applications."

The EH antenna, facing the same efficiency and bandwidth challenges as the CFA, is about to undergo similar testing. EH Antenna Systems has applied for an experimental license at 1590 kHz on the test site being constructed in Eatonton, Ga.

Hart is hopeful that the tests, which will be conducted by Stu Graham of Graham Brockman Consulting Engineers, Atlanta, will support his claims as well.

The EH antenna will be tested against a 65-foot vertical radiator with a 120-radial ground system. Hart said, "When

See ANTENNAS, page 8 ►

**If you could turn the thing on and prove that it works, how can you refute hard data?**

— Carl Gluck

believe it is: an electrically short, fat antenna.

Others still leave room for doubt. "I choose to remain open-minded,"

Dawson said, "There is no question that the full-scale CFA antennas which are in operation radiate, but many short, fat antennas can be made to radiate mod-

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## NEWS MAKER

# RAI's Fassio on Italian CFA

## Former Project Manager Details the Installation and Performance of a CFA in San Remo, Italy

Crossed-field antenna installations can be found in other parts of the world, including Italy, the United Kingdom, Brazil and Egypt.

Dr. Alberto Fassio of Radiotelevisione Italiana, the national public service radio, television and telex broadcaster for Italy, worked closely on the installation and testing of a CFA antenna near San Remo in northern Italy.

Fassio was responsible for RAI's AM department and was CFA project manager until May of 1999. He then changed his responsibilities to TV, FM, digital video broadcasting and Eureka 147 DAB installations.

Installed last year, the San Remo CFA is being tested and operated.

RW Technical Adviser Thomas R. McGinley conducted an e-mail interview with Fassio regarding his experiences with this CFA antenna.

**RW:** You were closely involved with the successful installation of a CFA antenna. Tell us more about it. Where exactly is it and who owns it and/or paid for the installation? What frequency and power input are used?

**Fassio:** I discovered the CFA while reading *Wireless World* in 1994. I then contacted Mr. Hateley and asked him how to

contact Mr. Kabbary in Egypt. I went to Cairo, Egypt, in January 1995 to survey the Tanta installation where I evaluated the behavior of their 6 kW CFA.

(Ed. note: Maurice Hateley and Fathi Kabbary are two of the the inventors of the antenna.)

Due to the fact that this CFA was a very small structure, it seemed a very good solution for many of our AM transmission sites. RAI decided to build and test one in Italy. The test site is at San Remo with an old 6 kW transmitter on 1182 kHz.

Even though the contract was awarded in late 1996, RAI and RAI WAY, our new company in charge of RF installations and maintenance, both had problems with the local city council and the Italian laws governing electromagnetic pollution. That stopped the works for about two years until 1999 when the installation began.

**RW:** Who installed and measured its performance?

**Fassio:** The installation was handled by Kabbary himself with an Egyptian assistant, according to the terms of the contract. RAI WAY and Kabbary did a lot of measurements in the region around the site with good results.

Field strength values of the CFA measured very close to those radiated by the old 80-m mast, which was removed. (80 meters is 262.4 feet or 0.31 wavelength at 1182 kHz. That is a "tall quarter-wave" tower.)

**RW:** What did it cost to install? Who created the design?

**Fassio:** The installation was not expensive. I cannot provide the exact amount. Kabbary designed and installed it as I said before.

### Different installation?

**RW:** Did this CFA antenna replace a conventional vertical antenna with a buried ground system? Does this CFA antenna differ in any significant way from those installed in Egypt?

**Fassio:** Yes, it did replace the 80-meter vertical mast but for the moment is still under test. Our CFA is similar to the Egyptian CFA, but I cannot comment about their phasor since I was not able to see it at the time of my visit in Tanta.

**RW:** Were complete "before and after" field measurements of the old antenna and the new CFA taken? What was the average effective ground conductivity of the area around this antenna?

**Fassio:** The measurements were completed after the time I left the project so I have not seen those papers. The average effective conductivity is low along the coast but it increases to the north of the site towards the mountains. I do not have the data with me.

**RW:** What specific measurement methods and test equipment were employed to evaluate its performance?

**Fassio:** Field measurements were made by a portable field intensity receiver. The phasor was tuned up with an HP 8753C

network analyzer.

The RAI AM department is waiting to do other measurements regarding efficiency. I want to point out that for us as broadcasters, it was important to replace



San Remo, Italy CFA installation

the old mast with a small antenna, due to the laws, as I said before.

It is not our core business to perform specific studies on it. We are not a research center. So all special measurements will be made later, taking into account the free time our AM department will have for that.

**RW:** Were the measurement results ever made public? If not yet, will they be? Did the achieved performance match your expectations?

**Fassio:** Yes. The final measurements matched the designer's and our expectations. Further details will be available in the near future.

### Tricky modifications

**RW:** How long did it take to construct and tune up the antenna to achieve the performance it is producing now? What specific problems did you encounter, if any, in getting it to perform properly? Is it hard or "tricky" to get tuned up?

**Fassio:** The antenna was built in three weeks and the tuneup was tricky. The phasor design was changed due to modifications that were necessary during the assembly of the disc and its distance to ground. So the phasor needed some mods.

**RW:** Was the antenna intended to deliver any skywave coverage? If so, was skywave performance measured or evaluated?

**Fassio:** No. No skywave was requested.

**RW:** Now that this CFA antenna is up

and running and you have 20/20 hindsight, what would you have done differently in its implementation?

**Fassio:** If any future installations of CFA antennas are done, the work will be done by an Italian installer. The installation was not carried out in the same way as we normally do, requesting a local company. This was an experiment and it was more easily accepted by the authorities that way.

**RW:** Do you think that the CFA antenna is truly a scientific breakthrough in antenna design?

**Fassio:** As I said, it is not our business, especially in AM, to carry out specific studies on antennas. I can say that the CFA solves installation problems and maintenance costs. And it satisfied concerns of Italian authorities regarding electromagnetic pollution. The near field was effectively lower than before.

**RW:** What applications or situations would be ideal for a CFA antenna and where would be someplace a CFA antenna would not be appropriate, in your opinion?

**Fassio:** Ideal situations for the CFA for example would be transmitters on top of buildings or where the broadcaster has problems with local authorities gaining permission to erect masts. I cannot say anything about the "not appropriate" situations because the tests we conducted were limited.

**RW:** Would you recommend the CFA antenna to others?

**Fassio:** I recommend it for anyone to test. All broadcasters have their own specific problems. For me, it is not important to decide if the Kabbary theory is right or wrong or to push a theory against someone who thinks "Maxwell is Maxwell and its theory cannot be changed."

The important thing, for a company making a business decision, is to find a solution to a problem to possibly reduce the expenses. And the CFA does that.

## Antennas

► Continued from page 7

that test data is available, it will be furnished to all interested parties." He hopes that EH Antenna Systems will receive its authorization to test soon.

### Waiting for data

Broadcasters want hard evidence on the performance of both the CFA and EH antennas before they can believe the manufacturers' claims.

"The FCC and others will almost assuredly not accept anecdotal evidence; they require comprehensive, hard data," said Milford Smith, vice president, engineering for Greater Media Inc.

Carl Gluck, vice president of technical research for Salem Communications Inc., agreed. He wants to see an FCC directional proof of performance conducted.

"If you could turn the thing on and prove that it works, how can you refute hard data?"

Once the single antenna questions are answered, the effect that might be most beneficial to U.S. broadcasters is how these antennas might be used in a directional antenna array.

Cost for both products is unknown. Richer said the CFA will be priced by power requirements with a typical 10 kW antenna going for about \$250,000, installed and tested.

Hart estimates the EH antenna may be priced as low as \$40,000, but prefers to wait to give firm numbers until the tests are complete.



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## NEWS ANALYSIS

# As the Sun Sets on Kennard Era

by Leslie Stimson

**WASHINGTON** Are radio engineers and other executives going to remember FCC Chairman Bill Kennard mostly as the man who brought them low-power FM? What is his legacy? And how might politics affect the makeup of the FCC next year?

Kennard, a Democrat, is likely to leave his post in 2001. Publicly, he has said he intends to fill out his term to its completion in June. But most observers believe Kennard will step down sooner if Republican George W. Bush assumes office as president. That outcome was still uncertain in late November.

But even under a President Al Gore, Kennard is not expected to stay beyond next summer, having served his term as chairman since 1997 and as FCC general counsel before that.

His term will be remembered for more than just the low-power FM debate.

## Common sense

Kennard is the first African-American chairman of the FCC. When asked how he would lead the agency when he became chairman at the end of 1997, Kennard said common sense would prevail. He expressed reservations about the pace of station consolidation since passage of the Telecom Act.

Protecting the public interest, eliminating obsolete rules and regulating only enough to promote competition were among his stated goals when he became chairman.

When Kennard took office, the agency was still implementing portions of the Telecom Act not related to radio.

His agency saw the proliferation of wireless services and the growth of the Internet. It's still grappling with how to provide sufficient spectrum for ever-increasing demand by potential users.

One of the first broadcast issues Kennard sought to explore was whether the FCC should ban broadcast liquor ads as part of protecting the public interest. Although a formal inquiry into the issue died in the face of congressional opposition, broadcasters created their own self-imposed versions of a ban. Beer and wine ads, which make up the majority of alcoholic beverage advertising, escaped change.

For broadcasters, Kennard has paid particular attention to trying to increase diversity, both in ownership of broadcast stations and in station hiring practices. Kennard encouraged broadcasters to start funds to help minorities invest in stations. The commission also revamped its EEO rules during his chairmanship.

The FCC moved to electronic filing and streamlined much of broadcasters' paperwork requirements during his term.

"Trying to renew a license 15 or more years ago was an incredible undertaking," said Frank Montero, who recently completed a stint as director of the FCC's Office of Communications Business Opportunities and is now a partner of ShawPittman. "That's all changing."

The agency streamlined its offices during Kennard's term. Separate tasks were combined a year ago in the new Enforcement Bureau, under which 180 illegal station operators have since been shut down.

In his first interview as chairman with a

radio trade publication, Kennard told Radio World in January 1998 that low-power FM was the hot issue he intended to explore. He said many people lacked opportunity to own or work at stations, and he wanted to change that by creating a new low-power class of FM stations.

Former commissioner Andrew Barrett, a Republican, said he wasn't sure Kennard would achieve his goals, depending how LPFM is implemented, but said "I'm not going to criticize him for believing it."

"If you look at people who own property," he said, "none of us wants to be regulated and we don't want to change."

Throughout his term, Kennard has said he wants to show restraint and not rush to regulate the Internet (see page 3). The FCC has made some "Net-impacting decisions," said former commissioner Rachelle Chong.

She said those decisions include regulation on items like a standards battle between the cable and television industries over interactive personal TV; reciprocal compensation issues for Internet-bound traffic; whether IP telephony gets regulated under traditional common-carrier regulations; and whether nonaffiliated ISPs can get government-mandated access to cable modem systems.

However, Chong said, "To the extent they (the current commissioners) leave,

anything is possible given that Internet policy is a trendy political football for politicians, much like TV violence."

The president appoints the FCC chairman. The person he chooses must have been confirmed by the Senate as a commissioner. Therefore, if Bush takes office, he may appoint any of the current commissioners as chairman, but presumably he would choose Republican Commissioners Michael Powell or Harold Furchtgott-Roth as chairman or acting chairman in January.

## Selection

Should the president want to select as chairman someone not already on the agency, that person must go through the Senate confirmation process, and the president must first select an acting chairman.

The balance of power on the commission will depend on the outcome of the election. But in any event, the makeup of the commission's top leaders and staffers will change as at least two seats, and possibly three, would be vacated in 2001. How many commissioners leave and when that happens depends, in part, on the outcome of the election.

Under a GOP White House, the majority of the commissioners would shift from the current Democratic majority to a 3-2 Republican tilt.

## Patten Was a Digital 'Bridge'

by Gregory J. Robb

**NEVADA CITY, Calif.** Where the imagination goes, so went the late Michael D. Patten, co-founder, chief technology officer and chairman of Graham-Patten Systems. His engineering designs spawned a generation of digital audio mixers that have been adopted by audiophiles all over the world, industry colleagues said. They saw Patten as a bridge that allowed broadcasters to drive from the analog age into the digital era.

Patten, who died recently at the age of 53, saw digital before digital even came about, from his first-class honors graduation, with a Bachelor of Science degree from the United Kingdom's University of Birmingham.

The young Patten began his extensive work on digital technology at Standard Telecommunications Laboratories, the British research center of ITT Industries Inc. He assisted in the development of the first high-fidelity 12-bit audio digitizers and designed one of the first digitizers for Phase Alternation Line television signals.

## Go digital ...

Mike Patten's exploration of digital technology took off when, in 1975, the Grass Valley Group Inc. recruited him to pursue the development of digital television. His was the imagination behind several of GVG's most successful video production switchers and digital video effects systems.

Tim Prouty, formerly a sales representative at Graham-Patten, said Patten helped to drive the transition from analog to digital.

"People were still designing analog circuits and were still designing things with a pencil. When you go back to the early

'80s, that's just the way it was done."

Patten left GVG in 1980 to form Graham-Patten Systems in California's Sierra foothills. There, the company enjoyed an industry coup with Patten at the helm. Jim Ward, Graham-Patten's chief financial officer and co-founding member, remembers Graham-Patten's claim to fame.

"Some of the engineering people from ABC contacted Mike ... and had him design and build an audio mixer for the 1984 Olympic Games."

Patten is remembered for his precision. Friends describe a perfectionist who took his time and polished what he did. Patten's trademark was the efficiency of his product.

Howard Mullinack, the CEO of Graham-Patten Systems, confirmed that Patten's knowledge provided a crucial competitive edge.

"Mike knew how to put a tremendous amount of power into a very small amount of code. The amount of present power available on the (early) chips was somewhat limited. But he was able to squeeze the last 99.9 percent out of it."

Mullinack characterized Patten as the perfect engineering partner.

"He was extremely focused on detail, and recognized that his area of expertise was in technology. And (he) was more than happy to let me and other people run the rest of the company," said Mullinack, who had only known Patten for about a year.

The industry appeared to be similarly impressed with Patten's work. In 1991,



Michael Patten

The seats of Democrat Susan Ness and Republican Furchtgott-Roth would be available right away for the next administration to fill. If he steps down early, Kennard's seat would also be available. If he doesn't, that seat opens up June 30.

Furchtgott-Roth's term expired in June.

President Clinton has renominated Ness to a second term, but her confirmation has been held up in the Senate. Depending on who's elected, she may receive a one-year appointment during the congressional recess. However, she can only stay until next fall, at the end of the first session of the 107th session of Congress — if she's not replaced before then. A so-called "recess appointment" does not guarantee her a full extra year.

Both Ness and Furchtgott-Roth could either be reappointed for full five-year terms, or replaced, depending on which political party would be in the majority. Replacements would need Senate confirmation. Powell's term ends in June of 2002; Democrat Gloria Tristani's term is up a year later.

Realistically, FCC commissioners would be far down on the priority list of confirmation hearings. Like any political appointees, their confirmation is subject to a certain amount of horse-trading between the White House and the Senate as members of the administration and Congress review their political appointee list, say observers. That means the new FCC may not be completely in place for several months. ●

The Academy of Television Arts and Sciences awarded Patten a Technical Emmy for the D/ESAM line of Graham-Patten edit suite audio mixers.

"He never really stepped up and took credit for (his work). As far as he was concerned, this was a joint effort, a company effort. He was willing to stand up and accept an Emmy for the product, but he did it on behalf of the team," Prouty said.

He said success stemmed from Patten's expertise for the details of a well-conceived idea. "Where Graham-Patten was very different was coming out with an idea of ... handling audio editing the same way you would handle video."

## Legendary

Patten was also an extraordinary person, said colleagues. Many a joke has been chortled at the expense of the "engineer's personality" — a dinosaur-sized stoic attitude that has made the broadcast engineer a legendary figure.

"I mean, he (Patten) would be the first one up on the dance floor at the Christmas party, or even wear the scarecrow thing for Halloween," said James Ward, CFO of Graham-Patten. "I'm a financial guy and (am) somewhat electronically challenged. So he would always be there to help in any he could. He was an awfully nice guy."

Patten's ideas inspired a new generation that, under his tutelage, developed into what many industry insiders say are superior engineers in the specialty of Digital Signal Processing code.

Mike Patten died of a sudden stroke on Sept. 14. He is survived by his wife, Pamela, his mother and his sister.

Company executives had not decided by press time whether or how to fill Patten's position. ●



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# Kennard

► Continued from page 3

took \$400,000 of the family cigar fortune and bought CBS Radio. He told his son to go run the company.

No one thought that radio would amount to much. NBC was only two years old and was struggling. CBS was in worse shape. It had only 16 affiliates. It was losing money. CBS didn't even own a single radio station. Paley was 27 years old in 1928 and had no broadcasting experience.

But Paley understood something very important about radio. He understood that the power of radio was in its reach. When Paley came to broadcasting, the networks sold programming to radio stations. The radio stations bought the programming, so they were the clients.

Paley developed a new business model. He just gave the programming away to the stations, to get the widest distribution, and made the advertisers his clients.

Paley shifted the paradigm in radio, and in the process, he jumpstarted an industry that became the most important cultural medium of his time.

He stood the conventional business model on its head. He thought outside the box. You in this room are not only thinking outside the box, you've got a whole new box, and it's called the Internet. I am confident that you will use it to shift the paradigm and forever change the way people use the telephone in this country.

So here we are, present at the creation of the IP telephony revolution.

You only have 1 percent of the voice traffic in this nation.

I was thinking about the top reasons to encourage IP telephony. I had 10 reasons, but we are streamlining at the commission, so now I have only 5.

- The string and two-paper-cup phone system we have between the FCC and the White House has gotten notoriously unreliable lately.
- So telemarketers can find ever-cheaper ways to harass people during the dinner hour.
- So we can actually get some equipment at these conferences, instead of just consultants.
- So Net-savvy teens will finally free up the traditional phone for their tech-illiterate parents.
- Because when you're angry it's so much more satisfying to slam down the mouse.

You may have 1 percent of the voice traffic now, but estimates are that in five years you will have 15 percent of the traffic. Industry estimates (predict) that in just three years, 300 million people worldwide will be using voice over the Internet.

I am convinced that once Americans discover the cost and functionality of IP telephony, they will leave the circuit-switched world forever.

## Then and now

Of course, IP telephony would not have been possible without the birth of the Internet.

The role of the government in the new economy is hotly debated these days, but I will tell you that much of the new economy could not have happened without government. ...

When technologists began to use the telephone network for "enhanced services" in the 1980s, we declined to regulate those services, paving the way for the unregulated Internet. ...

In the mid-1990s, the whole process culminated with the passage of the Telecommunications Act of 1996. That act radically departed from the past by taking two big steps:

First, it ended the 100-year-old monopoly franchise over the last mile; and, second, it embraced competition as the organizing principle for the future.

My tenure at the FCC has been devoted to implementing the 1996 Act. We have moved aggressively to open up the last mile to competition from anyone willing to invest in bringing the American public competitive choice in phone service.



Photo: Leslie Stinson

FCC Chairman Bill Kennard

increasingly obsolete legacy regulations of the past.

It's not that one playing field is level and the other is not. They're two different playing fields.

Their architectures fundamentally differ, and so should their rules.

## Sword and shield

I also think that regulation is too often used as a shield, to protect the status quo from new competition — often in the form of smaller, hungrier competitors — and too infrequently as a sword, to cut a pathway for new competitors to compete by creating new networks and services. ...

Like the emerging broadcast industry at the time of Bill Paley, now is the time for you to invent new paradigms, new ways of using your technology to provide service to the public.

You need to be working on new applications and new business models, on perfecting your technology.

The best thing we can do for ourselves is to give you the time and space to create and grow.

So that is my pledge to you: to stay out of your way. ...

I support and applaud the independence of the Internet, including the delivery of voice traffic over the Internet.

And I also oppose any plan to levy any new fees or taxes on IP telephony ... here is all I ask in return.

Design the curb cuts in your products and your services now. Make them accessible. ...

Give attention to the kinds of problems the Internet must resolve if it is to be the truly democratic medium that it can be, problems of privacy and copyright, of consumer protection and access for all. 🌐

## 'My top priority at the FCC is to get high-speed broadband access into every home and hamlet in this country.'

In the 1960s, the federal government funded a Defense Department computer network called ARPANET, and the National Science Foundation worked to extend this nascent net to universities and industry.

But the ARPANET was a long way from the network the Internet is today. To create that, you had to crisscross the country with a transport backbone and get cheap modems and computers into America's homes and offices.

The FCC's initial instincts were right: Allow entrepreneurs to innovate, and trust the American people to choose the technology they want. When telephone-related equipment like computers and modems and their software surfaced in the 1970s, we did not regulate them. And we told the monopoly phone companies that you had to allow people to plug them into the network.

In the 1980s, government broke up AT&T and opened up competition in long-distance services. Investment flowed into long distance, laying the foundation for the Internet backbone.

That's why we have so much competitive local access to the Internet today. ...

Our wireless policies today are encouraging the migration of the Internet from our desktops to the palms of our hands.

Now my top priority at the FCC is to get high-speed broadband access into every home and hamlet in this country. ...

Americans on the Internet jumped from about 3 million in 1994 to more than 130 million today, and virtually every country on the planet is following our lead in opening markets and creating opportunities for entrepreneurs.

Your industry is on the map now. How do I know that? ... I am beginning to hear calls for a level playing field. ...

Today, people are telling me that voice communications, whether delivered by the Internet or the traditional phone companies, should be treated the same: licensed the same, regulated the same and taxed the same. In other words, more regulation for IP telephony. ...

During this transition, the answer is not to saddle nascent technology with the

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# BEXT

## GUEST COMMENTARY

# Rambling Without Gambling

*A Leading New York Broadcaster Ponders Whether Radio Still Has a Place for Older Listeners*

**William O'Shaughnessy**

George Plimpton once called radio "a nifty, little device ... a marvelous companion which follows us damn near everywhere." E.B. White observed long ago that "a radio was more than a box or kitchen appliance." Radio is still the medium closest to the people because it is free and "over the air."

Former New York Governor Mario Cuomo (who still does an intelligent, highly literate weekly show on upstate public radio stations) likes to remind broadcasters that the instruments of communication which reside in their care and keeping have the potential to resemble more than a jukebox.

## 75-year ramble

With his customary eloquence, Cuomo advises us that a radio station can resemble a platform or forum, which can make a community "stronger, better ... even sweeter ... than it is."

Radio is like the biblical Lazarus. Television couldn't kill it. Cable and the Internet couldn't do it in. Maybe the only thing that can conquer radio is radio itself. And its listeners.

These thoughts occurred to me when

Newsday's Peter Goodman delivered the sad news that John R. Gambling was leaving WOR.

**Today, the sad truth is that stations are worth more 'in play' among speculators than they are being operated as radio stations.**

Gambling's departure marks the end of the longest-running family franchise on New York radio. For 75 years through war, turmoil, social change and prosperity, a Gambling has presided over WOR's morning show. "Rambling With Gambling" was the oldest, permanent, established, floating early-morning radio program in the nation.

John R. Gambling did not have the edginess and occasional vulgarity of Howard Stern or the rich admixture of social commentary and bombast Don

Imus brings to his many fans. And Gambling the Younger's benign, low-key (dare I say: pleasant?) performances were never accompanied by the dazzling production values and quickness of Scott Shannon.

Gambling was a morning man the

way the listeners of our father's time imagined them to be: agreeable, comforting, reassuring reasonable, non-threatening, optimistic, hopeful. And he was a mighty good, reliable companion. These were qualities and attributes handed down to him by his father John A. Gambling and grandfather John B. Gambling.

It was a matter of breeding and good bloodlines which enabled him to produce "family entertainment" that was a welcome and reliable in homes all over the metropolitan area.

No matter the terrors, disappointments and loneliness of the previous night, there, for seven decades, was the comforting, soothing voice of a Gambling to reassure us, get us centered and help us greet a new day by dawn's early light. It seemed like it was ever thus around here. They were an enduring and endearing fixture of great value and warmth in our lives.

## No trash

"I liked the Gambings because they were clean, friendly and ... nice," said Grace Sensbach, a Westchester woman who collects antiques (no pun intended!) and was very upset by recent developments at 710 on the AM dial.

She was too much of a lady to point out that John Gambling also lacked a "trash mouth," which appellation has been affixed to some of Mr. Gambling's contemporary competitors.

So John R. Gambling's departure is an unwelcome sign of the times. It is not unlike the disappearance of the family farm on the airwaves. Today, the sad truth is that stations are worth more "in play" among speculators than they are being operated as radio stations.

Most frequencies in the New York area have now fallen to speculators and absentee owners. "Asset managers" have replaced the old-time, independent broadcasters who once considered theirs a profession instead of an industry. The quaint notion that a radio station operates as a public trust is now a hollow echo from the halcyon days of broadcasting.

See GAMBLING, page 16 ▶

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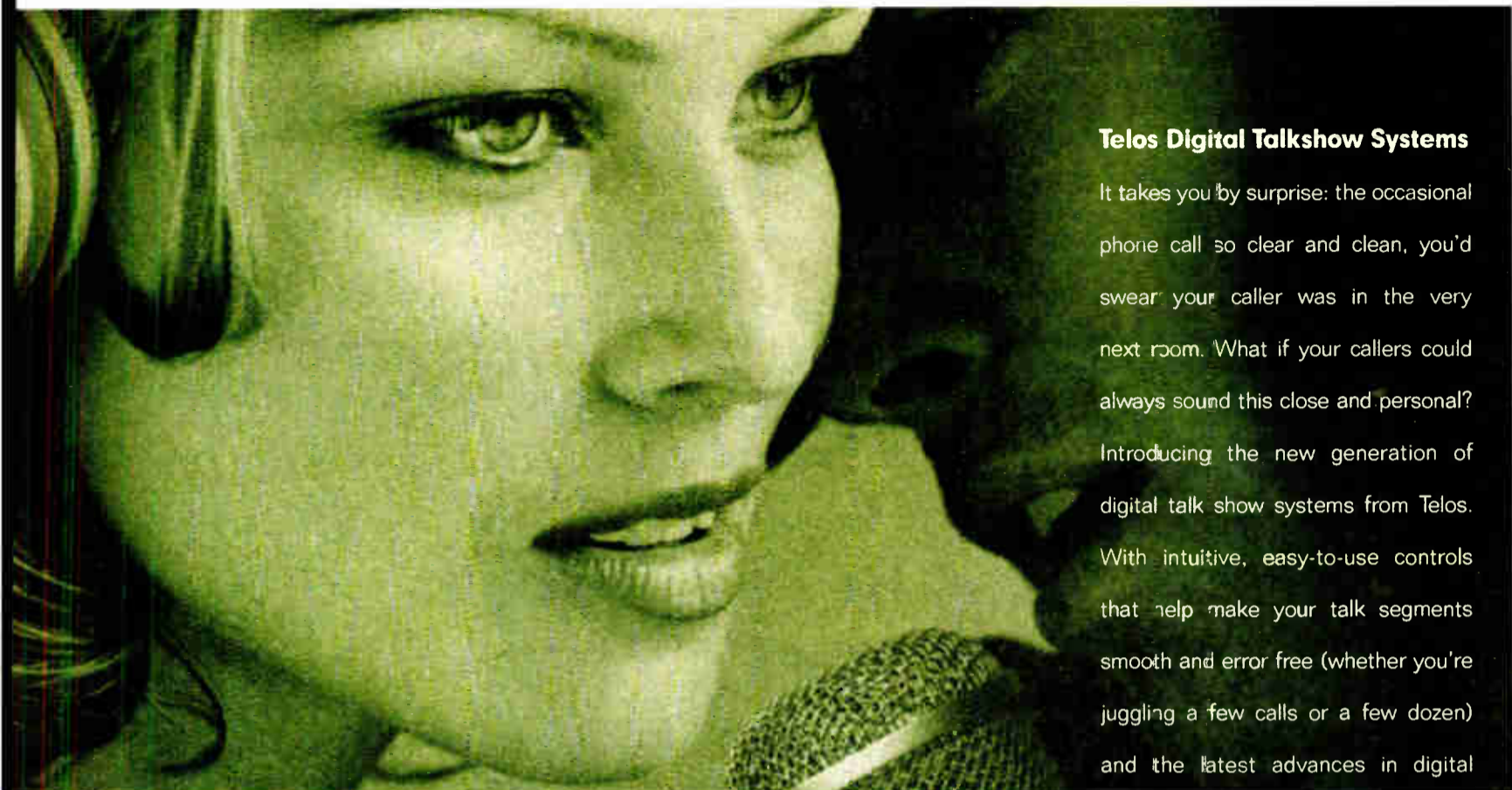
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# Gambling

▶ Continued from page 13

Truth to tell, it would be nice to blame Mr. Gambling's demise on one of the aggressive, new business school MBA gunslingers who now populate the ranks of our tribe as a result of consolidation.

## Broadcasting family

But WOR is controlled by the scion of a great broadcasting family. The Buckleys are an altogether benevolent bunch compared to some of the conglomerateurs now preying on the electronic media in every community. Rick Buckley and Bob Bruno, his affable,

veteran general manager, are both enormously respected for their generosity and stewardship.

shifting demographics dictated by Madison Avenue marketers who crave only the hip, young and impressionable.

**No matter the terrors, disappointments and loneliness of the previous night, there, for seven decades, was the comforting, soothing voice of a Gambling to reassure us.**

But in this day and age, even a nice family like the Buckleys has to make "prudent" business decisions based on

It has happened before. And all too often, I get a flash of *déjà vu* as my thoughts drifts back to the once glori-

ous WNEW with the incomparable William B. Williams and programs like "The Make-Believe Ballroom" and "The Milkman's Matinee."

The much lamented DJs and greatly missed air personalities of the 1960s, '70s and '80s merely had to entertain. Now radio performers are called on to titillate, distract and shock us. And they must have never, ever, under any circumstances, cause us to think about anything of redeeming social value or the great issues of the day.

## Room for nice

Although one has to acknowledge that the problems and pressures facing society are quite different in this high-tech, electronic, speeded-up day and age, I wonder if there is any room left on the airwaves for performers who are only as "clean, friendly and nice" as Mr. Gambling. Ultimately, only the discretion of the audience will determine whether there is any room for taste, class or grace notes on the airwaves. WOR didn't let young Gambling go. We did.

P.S. There may be some hopeful signs that civility is not completely lost to the popular culture. Recently I encountered 74-year-old Tony Bennett in Manhattan telling one and all at a party that his recent concert at the vast Radio City Music Hall was "Sold Out" with not even "Standing Room Only."

And then Michael Carney (Art's nephew), leader of the hottest society-swing band in the country, called to report that the song most requested for the first dance at weddings is now Jerome Kern's lovely classic "The Way You Look Tonight."

But this doesn't lessen the sadness that accompanies John Gambling's dismissal.

*Gambling's father John A. Gambling was inducted into the Radio Hall of Fame last month.*

*William O'Shaughnessy is president of Whitney Radio/WVOX(AM) and WRTN(FM) in New Rochelle, N.Y. He is a former president of the New York State Broadcasters association and former NAB Radio Board member.*

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The SPM also has a wireless microphone connection, "so the jocks can stand near by and do a 'Coney' thing to draw people over," said Leonageo. The Super Prize Machine panel allows the station to place their call letters or sponsors' logos.

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Joaquin Araya

# LPFM Is an 'Opportunity Wasted'

Dear RW,

In reference to the Sept. 13 LPFM Reader's Forum ("Low-Power FM: Goat, Not Hero"), it is obvious that I was, like many other people that I know here, misinformed as to the purpose of LPFM licensing and legitimization.

We are in a very remote, isolated rural community in central Alaska, and the possibility of obtaining an LPFM license and going "on the air" has excited a num-

ber of people in the area, especially commercial enterprises.

It was my understanding (and many others' as well) that the impetus for opening up such licenses was to legitimize/legalize many of the commercial LPFM pirates that were, and still are, on the air across the nation — thus bringing them into the real radio fold and forcing them to adhere to the same standards as everyone else.

However, once the FCC went public with the licensing application process, it was evident that the licenses were only open to nonprofit, governmental and/or educational organizations.

the LPFM was on 103.3. The radio was situated 1,000 feet from the LPFM tower.

The results were just a bit of splash to the full-powered station that dramatically disappeared after driving 1 mile away from the LPFM tower. The full-power station caused drastic interference to the LPFM.

The radio I used was a 20-year-old Panasonic RF 2200. I used my Nissan digital car radio and achieved the same results. I have done a number of studies with different situations and have come to the conclusion that LPFM will not in any way harm full-power stations.

On this test, the LPFM was on the first

adjacent protection above or below its assigned frequency.

Our local NPR station, KPBS(FM), also carries reading service for the blind. They operate a translator on the lower second-adjacent channel for the Northwest part of the city. On KPBS, the upper second-adjacent is a translator owned by Educational Media Foundation, better known as K-Love. The translator is on the same mountain as KPBS' transmitter and operates at 1 watt at HAAT of 590 meters.

This translator far exceeds what an LP-100 can run and it is only two channels removed from KPBS' assigned frequency. In fact, LP-100 stations are limited to a

See LPFM, page 19 ▶

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**The local populace would love to have access to LPFM, but it would only be viable on a commercial basis due to the economy of the region.**

— Michael K. Godwin

This greatly disappointed, frustrated and angered some here. There is only one radio station in this region (within 100-plus miles) and no TV. The local populace would love to have access to LPFM, but it would only be viable on a commercial basis due to the economy of the region and scant budgets of the nonprofit, governmental, educational entities.

LPFM could be a godsend to small, isolated rural communities such as ours. It appears to most of us here that the LPFM opportunity has been wasted. Maybe someday.

Michael K. Godwin  
 Chief Engineer  
 U.S. Army Broadcasting Service  
 Ft. Greely, Alaska

adjacent from an existing full-power station. Current FCC rules state it must be on the third adjacent. You may listen to my results on the Internet at <http://frank959.homestead.com>

This test is very real, unlike the bogus test at the NAB. It's not the interference NAB is worried about, it's that an LPFM might serve the public more efficiently.

Frank Vela  
 Chief Engineer  
 WTBH(FM)  
 Crystal River, Fla.

Dear RW,

Our community has applied for a construction permit for a low-power FM station that will serve three small communities outside of San Diego, Calif. We will be the first audio service in the area.

We will serve many unmet local needs that cannot be met by San Diego broadcasters such as local EAS alerts for local wild fires, promoting local events, local news and many other community issues.

Interference is not the real issue for the NAB or NPR. The technical evidence is overwhelming that low-power FM stations will not cause harmful interference to existing full-power stations.

I listen to a Mexican station every morning on the way to work without any problems, as do many other people in San Diego. The station has no second-

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## GUEST COMMENTARY

# Can't Always Get What You Want

*RW Reader Responds to Complaints About Radio Station Call-Letter Squatting Online*

**Marvin Chepko**

This is in response to William Barnett's *Guest Commentary* in the Sept. 27 issue concerning online "squatting" — ownership of domain names by a third party. I certainly understand your unhappiness at finding out that others have claimed something you think of as yours, but ownership of a name is a vague concept.

The FCC might assign your radio station the call sign KRUD, giving you

the right and obligation to so identify it on the air and in other correspondence. However, that does not give you the exclusive rights to KRUD in other activities.

You do not own that unique combination of letters.

### What's in a name?

If I want to put up an office building and call it Krud Corner, you probably would be powerless to stop me, especially if that building was in another

instead of pumping hundreds of thousands of dollars of PAC money into the halls of Congress to try to buy what they can't prove.

Broadcast owners were uninvited to the LPFM party; they cannot apply for the new stations. These ownership restrictions are the root of the problem. They have worked hard to convince Congress they could not survive if own-

city and there was no claimed link to your station.

**I understand the unhappiness of finding out others have claimed something you think of as yours, but ownership of a name is a vague concept.**

Indeed, you don't even own your personal name. There are probably

The NAB will quench anything or anyone that even looks like it might try and take away any of the gains they paid millions for in the 1996 Telecommunications Act. They don't care if they have to smear the professional reputations of the FCC chairman or the chief of the MMB as they tried to do by passing out to members of Congress a fraudulent interference CD. Some in Congress were more than willing to be fools, as they jumped aboard the NAB \$\$\$ gravy train.

Now the NAB is worried about the impending invasion from the sky as we approach the launch of satellite radio. They are too stupid to realize that right now the FCC has 1,200 low-power FM applications — which may be 1,200 more good reasons why the public should stay tuned to local FM broadcast stations and not bother with satellite radio.

Just think: if the FCC listened to the NAB in the past, we would not have FM broadcasting, cable TV, low-power TV, satellite radio and now low-power FM. Wow, a perfect score, Eddie! Now Mr. Fritts, go to the blackboard and write "public interest" 100 times. Maybe then you will understand it is not spelled shareholder interest!

*Norm Scott  
Potrero, Calif.*

## LPFM

▶ Continued from page 18

HAAT of 450 meters. At one point in time this translator was operating at 10 watts. Where was the outcry from either the blind or sighted community about interference issues?

**There hasn't been any public outcry of interference complaints despite the hundreds of short-spaced and grandfathered super-powered FM stations that have been operating for years.**

— Norm Scott

There hasn't been any public outcry of interference complaints despite the hundreds of short-spaced and grandfathered super-powered FM stations that have been operating for years. Hundreds of translators are operating at power levels way above what a low-power FM station will be able to run due to HAAT restrictions.

If interference was the real issue, the NAB would have built a low-power station to prove its interference claim

ership caps were kept in place. Now their worst nightmare has come true: new FM stations, of which you can only own ONE — and that one station must be locally owned.

To make matters worse, the stations can't be sold. My God, what if this kind of thinking were to catch on as the FCC considers other matters like expanding the FM band? It could be 1934 all over again! We can only hope.

several William Barnetts in the country. They have just as much right to that name as you do and to a potential [www.WilliamBarnett.com](http://www.WilliamBarnett.com) domain.

As for the outrageous price they want to charge you for the use of the domain, that's called free enterprise.

You had the opportunity to buy it cheap, but because you had no idea the Internet would be so successful in its early days, you didn't. Similarly, I wish I had had the foresight to buy Xerox or Microsoft stock when they were cheap years ago, but I doubt they'd accept that as a valid argument for selling it to me at a low price today.

Bottom line: you don't own a name, only the use of it in a particular area or activity. People who do own something have every right to ask whatever price they wish for it. You have the right to refuse or make a counteroffer.

Since there is only one KRUD station, there should be a very limited market for the [www.krud.com](http://www.krud.com) domain, so I'd suggest you make a reasonable counteroffer and see what happens.

*Marvin Chepko is CEO of Veni Vici Video in Atlanta.*

*RW welcomes other points of view. Write to [radioworld@imaspub.com](mailto:radioworld@imaspub.com)*

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**FEATURES**

# The Mysteries of Diplexing

*Sharing an AM Site? Do Your Homework Before  
The Design Engineer Shows Up to Start Work*

**W.C. Alexander**

*This is the fourth installment in a series of articles about shared use of transmitter sites. The previous part appeared in the Nov. 8 issue.*

Another forgotten requirement for diplexing a directional station is the installation of pass/reject filters in the antenna monitor. The monitor needs to be sent back to the manufacturer for this

self-impedance measurements should be made. For driving point impedances, after inserting the bridge, be careful to readjust the phasor for the proper phase and ratio values on the antenna monitor.

This tunes out the insertion effect of the bridge. Correct all reactance readings for frequency.

*Base currents on all directional elements.* Measure these with a toroidal or thermocouple ammeter of known accuracy.

**The goal is to create a diplexer that will be transparent to both the high- and low-frequency transmitters.**

for accuracy certification after filter installation.

Unlike single-frequency antenna tuning units (ATUs), which often are constructed on open-frame chassis with little or no shielding from other components, diplex filters must be well shielded from other components and filters in the system.

This typically means that each filter must be in a shielded enclosure with no common walls with other enclosures.

Sometimes this means constructing the filter in a metal box and inserting that box into another, common metal housing. Other times it may mean placing the filter in a completely separate metal enclosure.

The designer will determine the configuration and layout of the diplexer after he completes the electrical design and examines the physical layout of the site.

## Checklist

The design engineer will need a good deal of information before proceeding with the planning of a diplexer design. You must provide this information or else pay a premium for the engineer to come to your site and gather the information.

Accuracy is everything. Mistakes at this stage have a big impact on cost and will cause delays later in the project. Here is a partial list of information the design engineer will need to begin directional and nondirectional diplexer designs:

*Self-impedance measurements on both frequencies for the driven element, and driving point impedance measurements on all directional elements in the array for all modes of operation at the directional frequency.* If you have an impedance bridge, oscillator and detector you can make these measurements yourself.

For self-impedance measurements, be sure to disconnect all ATU components from the tower before measuring. If part of a directional array, the design engineer will state whether to float (open) or short the other towers in the array during the self-impedance measurement.

Center as well as sideband frequency

ue. Provide copies of any field notes or other information on the installation and tuneup that you can find.

*A complete and accurate drawing of the site layout.* Pay particular attention to the vicinity of the tower bases, tuning houses or tuning units and either make the drawing to scale or give dimensions. This information is critical in planning the mechanical construction and layout of the diplexer.

The design engineer may ask for more information after reviewing the first set of data.

The goal is to create a diplexer that will be transparent to both the high- and low-frequency transmitters. It must provide excellent isolation, prevent the creation of intermodulation (IM) products and provide for the safety of those working at the site.

The amount of success achieved largely depends on the quality and accuracy of the information you provide.

I should mention that it is possible to combine three or even four AM stations into one antenna.

In areas where tower sites are few (such as Hawaii), it is not uncommon to find several stations sharing one antenna. Adding additional stations simply means adding additional filters for each station.

Losses go up and bandwidth often narrows, but practical compromises often can be reached. Voltages across insulators and elsewhere can become quite high when combining multiple stations, so concessions have to be made.

Next time we will look at what must be done to share an FM or TV tower with an AM station, and vice versa.

*Cris Alexander is director of engineering for Crawford Broadcasting.*

**MARKET PLACE**

## O.C. White Riser Has Inside Wiring

Now you can mount your O.C. White mic boom on a riser, and not have ugly wires to worry about.

**ALLIED**

A riser accessory will be available in February that hides the wires inside. It has a removable bottom flange for a custom look. You can use the bottom flange for a template and for backup underneath a desk/table, or bolt the flange to the tabletop.

A black 3-pin XLR-type mic socket is integrated into the riser top. Custom tops including exotic woods and compositions are available by special order in quantities. The riser height can be customized as well.

The O.C. White product line is now represented by Allied AirNet Services and is available from O.C. White dealers.

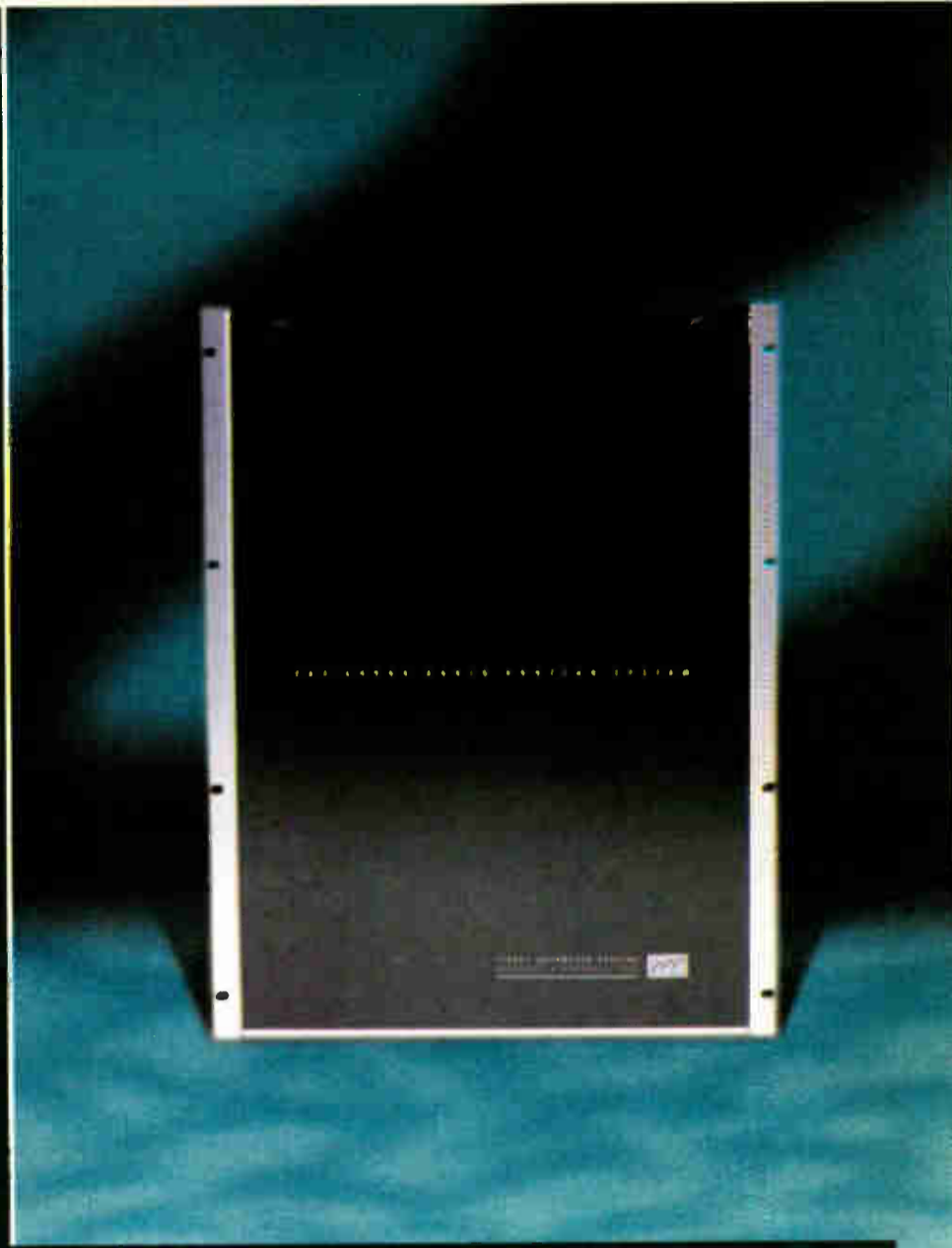
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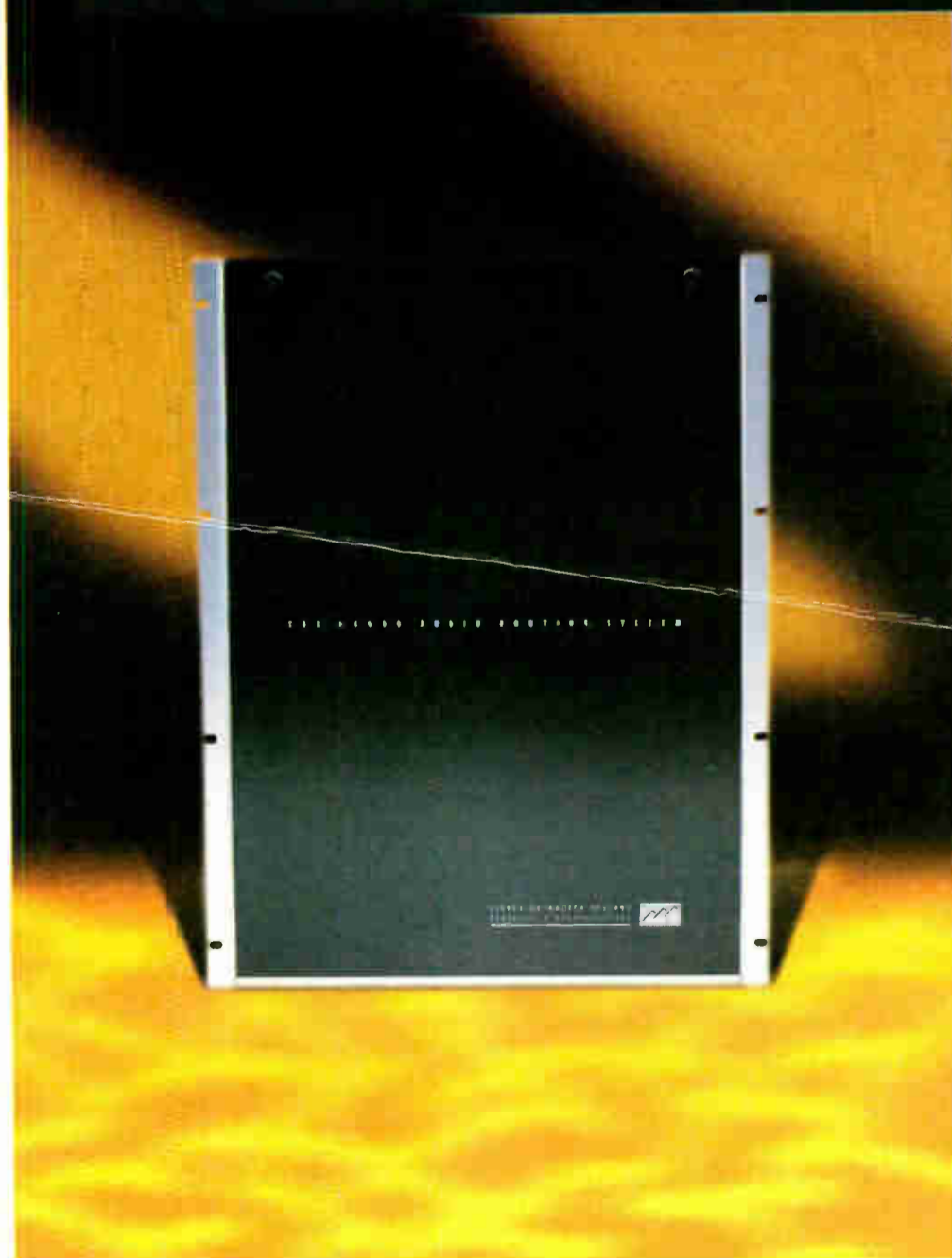


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## GUEST COMMENTARY

# Dedication ... at What Cost?

**Dick Boekeloo**

When I read the Aug. 2 RW article "The New Face of Engineering," it struck me as odd that the radio industry even wonders where the engineers have gone. Add air talent to the equation, too.

Questions were raised about a lack of dedication and commitment. But I ask: dedication at what cost?

## Contracts and obligations

As a contract engineer, I am a bit of an oxymoron. After 20 years in radio sales, management and very minor ownership, I awoke one morning to realize that, for me, it was all very unsatisfying.

In the face of government tax policies that discriminate against the self-employed, a good salary, profit sharing and free turbo Z-cars, I threw it all away to start as a contract engineer for \$600 a month.

Was this dedication or stupidity? Both. No regrets, though.

It offers the unique perspective of understanding both sides of the desk fully. Even more fascinating, staff members will tell me their true views now when they might not dare if I were the boss.

There is a reason engineers and air talent avoid a radio career; they are rational beings. It has less to do with money and everything to do with frustration.

It started with engineers under re-regu-

lation and moved to the air talent when radio stations started consolidating down to dysfunctional staff levels. The process overwhelms the engineer as we pile computers on top of computers into studios never designed for them. This is despite automation and not because of it.

**My wife is going to Hawaii; I cannot. I am expected to function around the clock as a part-timer on behalf of stations that will not make a commitment to critical backup equipment.**

From the perspective of smaller market stations selling in the \$2-\$40 a minute range, here is a smattering of issues guaranteed to cut the payroll.

As a contractor, stations expect me to be available 24/7/365 and I well understood that going in.

But, wait a minute. My wife is going to Hawaii with family next spring. I, her husband, cannot go with her. The reason is I am expected to function around the clock as a part-timer on behalf of stations that will not make a commitment to criti-

cal backup equipment in kind.

I may yet get to go, though. I'm optimistic that the \$30,000 in very old receivables is going to come in any day now, so I can hire my backup for you. All I need is someone irrational enough to agree to it for a week.

hour round trip to the airport.

In one fell swoop vanishes the date with my wife, 10 hours of engineer time, hours in off-air time and I receive 12 calls from people who don't understand why the tube in a 30 year-old FM transmitter can't be bypassed.

Oh, yeah, I'm in a good mood, now.

## Taking responsibility

I have some very good stations in my charge. I would expect that my examples would happen in the smaller markets, occasionally. But I have also talked with the \$2,000-a-minute station engineers who would pen a similar epistle. The difference in the letter they would write is it would have more zeros in the numbers and a lot more of those pesky purchase orders.

The problem comes down to something so elementary, it is easy to miss. When you are ready, Mister CEO, go among the great unwashed and listen. To start, here is a piece of advice my ex-boss offered years ago when he promoted me to manage his stations:

*"If an employee says you are full of bull to your face, take a good look first before you fire him. He just might be right and deserve a 'thank you,' instead. And never be afraid to hire people at least as good, if not better, than you. It will be a skill that I could never afford to lose. And it is why I hired you."*

No wonder I worked 20 years for him. After a few pounds of bull have shed,

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## This has all the appeal of Dogbert's human resource answers to motivation.

But, the admin folks are not the ones asked to give up their "family day" off, week after week, to do a Sunday afternoon remote at the gun and boat show. This has all the appeal of Dogbert's human resource answers to motivation.

What is rational about making the engineer go to the 30-mile remote transmitter site to confirm what he warned about in a memo a week ago?

The tube was going south, it just finished the trip and there is no spare. It cannot be ordered until morning with an extra \$400 cross-country air freight charge so it can be installed this evening after the two

one discovers the answers have little to do with mundane issues like salary. It is, instead, another form of expense control.

I asked up front, "Dedication at what cost?" From where I sit, practicing attrition in the name of expense control results in dysfunctional staff levels and productivity is costing staff their professionalism and families. That is the price of dedication that a good staff member will no longer pay.

*RW welcomes other points of view. Send e-mail to the address on the inside last page.*

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**DIGITAL**

FACILITY SNAPSHOT

# Combiner Facility Tops Times Square

*Clear Channel Switches on New Auxiliary FM Site in Condé Nast Building Over Heart of Manhattan*

**Scott Fybush**

Developers don't often have radio in mind when building a new skyscraper. But when New York's Durst Organization decided to build a new 52-story tower in

the heart of Times Square, there was no question from the beginning that the top of the building would be an important element in construction.

The project began with the stations under Chancellor's ownership. Thanks to

mergers, they subsequently were owned by AMFM and now Clear Channel.

Today, the structure towers above midtown Manhattan as the home of the Condé Nast magazine empire. At its peak sits a state-of-the-art auxiliary FM transmitter site now used by five Clear Channel radio stations: WHTZ(FM), WKTU(FM), WAXQ(FM), WTJM(FM) and WLTW(FM).

In addition to the space Clear Channel leases, there's room for seven more auxiliary FM sites, with the possibility of digital TV transmitters in the future.

As the plans were drawn up for 4 Times Square, Durst hired Riser Management of Burlington, Vt., to contact the city's broadcasters.

"They did a general mailing to all the engineers in New York City, telling them they were building a communications site on top of their new building and looking for broadcasters to go on a master antenna," said John Lyons, chief engineer of WAXQ(FM). "They wanted to make it a



Photo 1

Photo 2

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communications site and they wanted to do it right."

Doing it right ended up costing about \$2 million, a budget split between the broadcasters and Durst.

Because of the new federal RF exposure rules, the stations at Empire State found themselves unable to use the back-up master antenna lower down on that building.

"The standard for RFR dropped to 10 percent of what it was," Lyons said.

He said if more than four stations switched from Empire's ERI master antenna to the Alford backup antenna lower down on the building, the new standards would have forced Empire's 86th-floor observation deck to close, clearly an unacceptable outcome for one of the city's top tourist destinations.

The audience was receptive for Riser's pitch.

"They were obviously talking to the other big players — CBS and Emmis," said Lyons.

In the end, though, it was Chancellor that stepped up to the plate and signed the contract that gave it "pioneer status" on the roof of 4 Times Square.

As a pioneer, Chancellor could help design the building's FM facilities. Other groups interested in the site later would

See NYC, page 25 ▶



# NYC

► Continued from page 24

have to work with the equipment installed by Chancellor and Riser.

“(Riser) decided that if there were problems, they could solve them better if they just had one broadcaster to bark at instead of several,” Lyons said.

The design process began as the building was constructed.

“The first time I was up on the top of the building, I was standing there with just steel and God. There was



Photo 3

nothing else there,” said Lyons.

The contract with Riser and Durst gave Chancellor about 600 square feet, a 1,750 kW generator and a nearly blank slate to choose the rest of the site’s equipment.

Because this was one of the most prominent new buildings in New York, architectural requirements were already in place for the antenna structure. The building, leased to Condé Nast, was to be crowned with a square mast, requiring a four-sided panel antenna.

The choice was a Shively 6016, which is designed for a four-sided structure.

“It has a very omnidirectional pattern across the FM



Photo 4

band,” said Bob Surette, manager of RF engineering at Shively.

Shively engineers had worked with Riser during the design process, exchanging engineering CAD drawings to make sure the antenna and the support structure were matched perfectly.



Photo 6

“Because Riser had spent so much time designing our antenna into their building, it was probably a foregone conclusion of what they would use,” said Surette.

Shively also supplied its model 2540 combiner to the project, providing room for up to a dozen stations to eventually join the master site.

When the time arrived to choose transmitters, Chancellor — then in the process of being merged into AMFM — wanted to be prepared for the future.

“We were looking for something IBOC-ready,” said Lyons, referring to the expected development of an in-band, on-channel standard for digital audio broadcasting.

At the NAB99 convention, Lyons and other AMFM engineers looked at Harris Z10 transmitters and liked what they saw.

“Both USADR and Lucent were using Z transmitters as IBOC-only transmitters,” said Harris FM product manager Daryl Buechting. “The Z had been out since NAB ’96, it was an established, field-

See NYC, page 26 ►



Photo 5

## CAPTIONS

### Photo 1

4 Times Square as viewed from the southeast. Note antenna atop building.

### Photo 2

Electricians move one of the Shively combiner modules into place on the frame.

### Photo 3

Myat 3-1/8-inch transmission line on a unistrut frame to the input section of the Shively combiner modules (one per station).

### Photo 4

Myat line after penetration from combiner room into Clear Channel transmitter room for connection to Harris Z10 transmitters. Line layout was designed to minimize elbows and for ascetic value. Facade wall was cut to tightly wrap the transmitters and racks to force air through the racks and transmitters.

### Photo 5

Rear of Z10 transmitters showing individual Andrew dummy loads and Dielectric coaxial switches ceiling-mounted above transmitters to conserve floor space. Ladder tray goes across all transmitters and connects to the STL rack (off to the right of the picture).

### Photo 6

The other side of the Shively combiner modules, with the outputs daisy-chained with an Andrew dummy load (reject load) at the end of the line.

### Photo 7

This shows the Shively lockout/tagout switch in the operating position. Engineers wanted a definite positive means to isolate RF from the antenna whenever anyone had to work in the aperture.

### Photo 8 (Page 26)

Across the middle of this picture are visible three Scala STL antennas for WLTW, WTJM and WAXQ mounted on the east face of the outer radio tower. STL antennas for WHZ and WKTU are positioned on the south face. The outer tower rises 70 feet above the roof including four levels for up to 1,000 antennae. The inner tower climbs to 140 feet, on which is the two-bay Shively Master FM Antenna.

Photos copyright John Lyons, used with permission

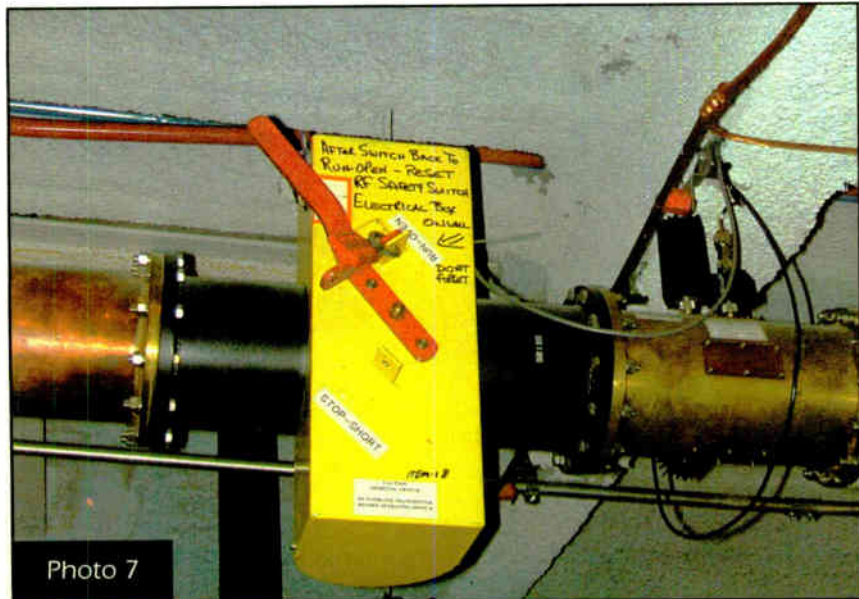


Photo 7

# NYC

► Continued from page 25 proven product."

A few weeks later, the engineering team flew to Quincy, Ill., where Harris staged a demonstration of IBOC waveforms passing through the Z10.

"We also showed them what we were doing with DTV," said Buechting.

"We kicked the tires and saw that it worked," said Lyons.

Five Z10s were soon on the way to the building site, along with Harris Digit CD digital exciters for the five stations.

AMFM picked Myat to provide the transmission lines from the transmit-

ters to the combiner and from the combiner up to the lines Shively had provided with the antenna.

From bare steel to finished site, AMFM had just four months to make its new facility operational.

"We started building the walls in the middle of July and by the beginning of October, everything was ready to rock and roll," said Lyons.

All this in the midst of a busy midtown Manhattan construction site, bustling with workers fitting out the rest of the building to become the new home of The New Yorker, Vogue and Glamour.

By Sunday, Oct. 17, everything was ready. All five stations — WAXQ(FM) at 104.3 MHz, WHTZ(FM) 100.3, WKTU(FM) 103.5, WTJM(FM) 105.1



Photo 8

and WLTW(FM) 106.7 — came up from the Condé Nast auxiliary site within four hours, without incident. It was the first time all five stations had off-site auxiliary transmitter capability.

Of course, because the site at Condé Nast is "only" an auxiliary, it hasn't seen as much use as the Empire State Building or the World Trade Center. Nevertheless, it's had a few chances to show what it can do.

"WKTU's (main transmitter) is down at the World Trade Center and there has been some DTV work on the master antenna there overnights," said Lyons, which means WKTU has been using the Condé Nast site quite a bit.

"We've driven around the signal at a distance of about 45 miles and you can't tell the difference" between the signals from Condé Nast and Empire or the World Trade Center, Lyons said.

### Ready for what's next

The Condé Nast site could see even more use in the next few years, as IBOC tests come to the Big Apple.

"At some point we'll be doing it," said Lyons, and making the conversion to digital is already in the plans.

"There's no need for a separate IBOC combiner," Lyons said, because the Z10s can handle both analog FM and IBOC with the addition of a new module. Lyons expects that any IBOC tests conducted by Clear Channel will take place from Condé Nast.

Lyons also expects some company up on the Condé Nast site.

"We did an SBE meeting last month up there and gave the other engineers in town the 50-cent tour," he said.

The site has room for seven more FMs, and Lyons said most of the work needed to add more stations to the site is done.

The Shively combiner can accommodate additional stations in any frequency order, so additional groups putting auxiliary sites at Condé Nast just need to "put up their walls" and install transmitters and transmission lines.

Lyons noted one more advantage to the \$2 million project: its proximity to Clear Channel's studios. While WHTZ and WKTU are across the Hudson River in New Jersey, "Condé Nast is closer to three of the studios than the Empire State Building by a considerable amount."

In fact, Lyons measured the distance from Condé Nast to WLTW's Times Square studios as "200 feet, door to door." 🌐

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# Workbench

Radio World, December 6, 2000

## Climb Into the Doghouse With Bisset

*Preparing the AM Array for Winter, Maintaining Coupling Networks and Looking for Crispy Critters*

**John Bisset**

We wrap up our transmitter site inspection with some tips for engi-

neers who manage AM arrays.

At the base of each tower sits a "doghouse" — sometimes a building, sometimes just an aluminum box. The

components housed within match the tower impedance to the 50-ohm impedance of the transmission line. In directional arrays, you may find more components or networks used for Day, Night or Non-Directional modes.

With another person on site with you, inspect the interior of these networks. Before you begin to inspect, make sure the power for the station is off, the transmitter door is open — to keep the interlock open so the transmitter is not accidentally turned on — and the remote control is in Local.

weather turns cold and snowy.

Once inside, clean and inspect. Many coupling networks have an AC plug, so use it for your vacuum and trouble lamp.

No AC? Use the flashlight and damp rags. Before you begin the inspection, a few precautions.

First, open the J-plug on the tower side of the network. That will prevent any re-radiated energy from coupling into the tower and into the network while you work.

Open the incoming J-plug, just to be safe. As you remove these plugs, did they just slip out or did you have to work at it?

You want a tight connection here,

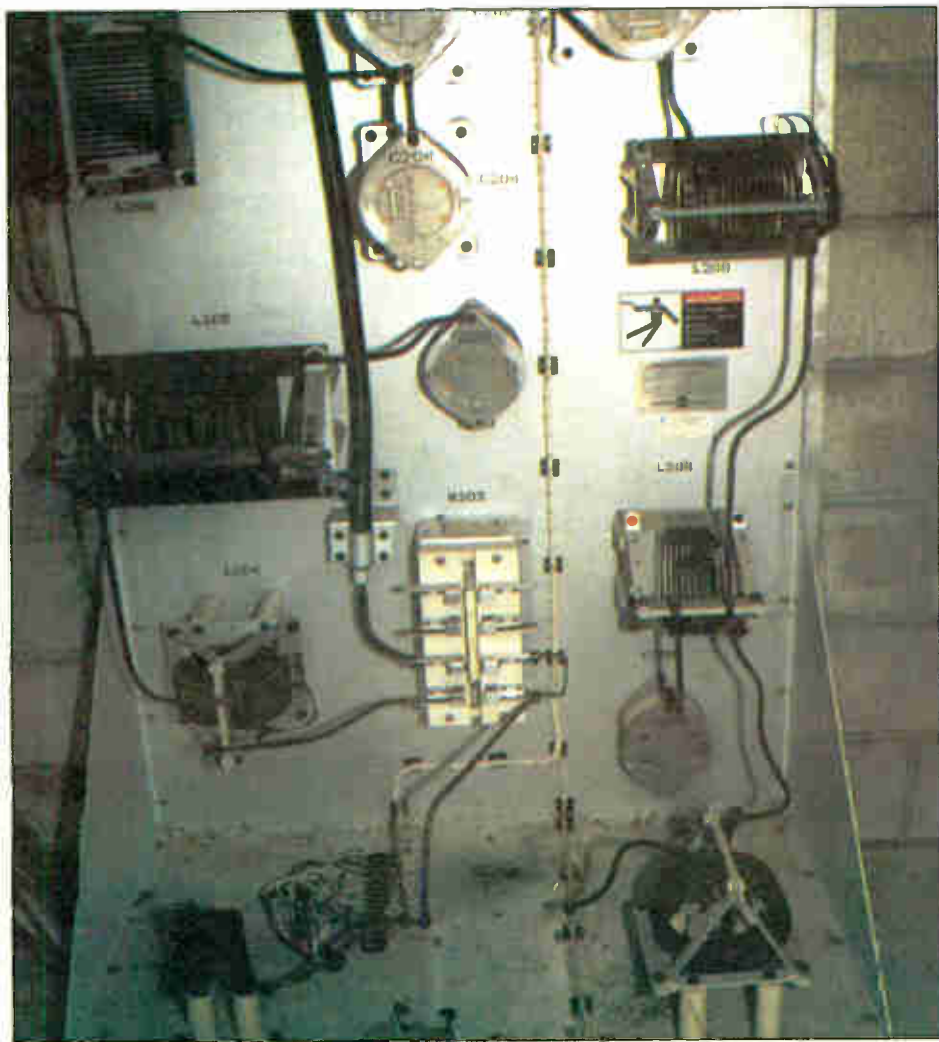


Fig. 1: A coupling network consisting of coils and capacitors

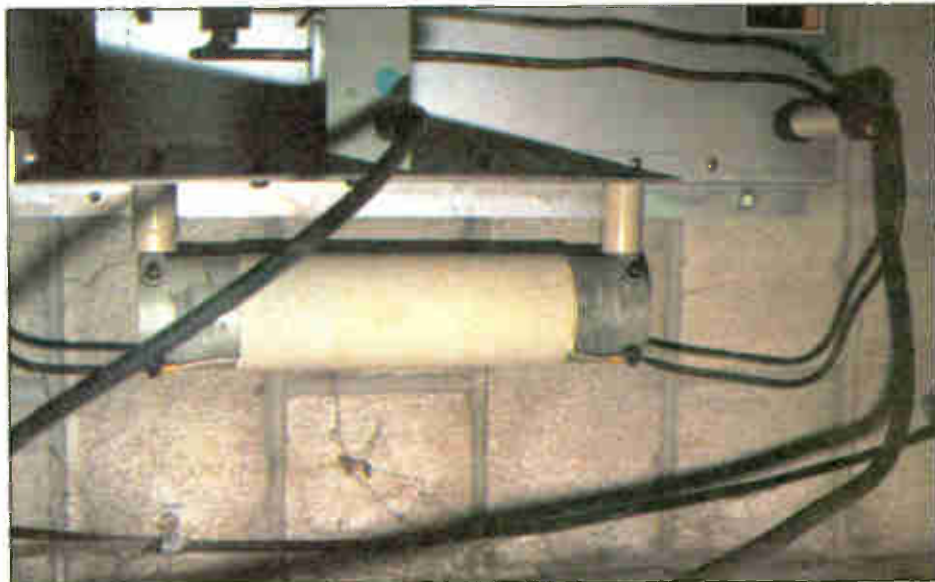


Fig. 2: A static drain choke should show no signs of burns or arcing

Take with you a can of bee spray, foaming sealant, 3-in-1 oil, a strong flashlight or trouble lamp, some damp rags and a vacuum.

The locks on coupling networks may be either padlocks or internal locks. In either case, lubricate the lock mechanism thoroughly with the oil. Pay attention to the locks before the

so if the plug slipped out, tighten the spring blades by squeezing them together with a large set of pliers. Don't twist or rotate the blades because some J-plug jacks are soldered and the prongs of the jack will break off.

Inside the coupling network, you See WORKBENCH, page 28 ▶

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## Workbench

► Continued from page 27

may have a light socket. If there is no switch, unscrew the bulb slightly when you are done. This will save on the bulb life. Also, keep a spare bulb on the floor of the ATU in its cardboard case.

With your vacuum or rag, dust the components, remove all cobwebs, rodent and bee nests.

As you work, you will encounter a number of components that you'll need to clean and inspect. Coils are first.

As you clean and dust each coil, be careful not to jiggle or move any of the copper straps that tap the coils. You might grab each tap to ensure they are tight, but do not change their location.

If you have a permanent marker, place a mark on either side of the coil clip, so you'll know where it belongs should it fall off. If rotary coils are used, inspect the wheel that rotates around the coil ribbon or tube.

Age and arcing can damage or destroy the ribbon or tube. Failure can be disastrous, so look for pitting or burn marks.

All connections into and out of the coil should be snug, but do not over-tighten. If the hardware used for the connections has discolored — usually showing a green tinge — replace it.

Corrosion on connections can cause intermittent problems. Your time is better spent replacing the corroded hardware than searching for intermittent faults.

The issue of hardware is an important one, be it AM or FM.

Steel hardware is affected by the RF frequency. The steel will heat up as it absorbs the RF. Ferrous hardware will drive you crazy as you try to track down what's wrong. Use only brass or nickel-plated brass hardware — that includes washers, as well as bolts and nuts.

This hardware is made up of non-ferrous metals. Don't just grab a bolt or screw off the workbench for tightening or securing things in the RF chain — the results can be disastrous!

★ ★ ★

Maintenance of capacitors is the next issue.

The ceramic body should not be cracked. Vacuum capacitors should be

clear, not cloudy. The interior metal plates should be shiny as you view them through the glass.

As with coils, check all hardware for tightness. Loose hardware makes for a poor electrical connection. Heat will build up at the loose connection and eventually will cause failure or component damage.

Don't over-tighten the hardware but make sure it is snug. Over-tightening

into or out of the circuit. Inspect the contacts for signs of "hot switching." When a contactor is switched while transmitter power is applied, contacts will burn. Eventually, they will fail.

Inspect the linkage of the contactor as well. In order to get the contactor to switch, have your assistant switch the mode switch at the transmitter building.

Movement should be swift, not sluggish. Sluggish movement may

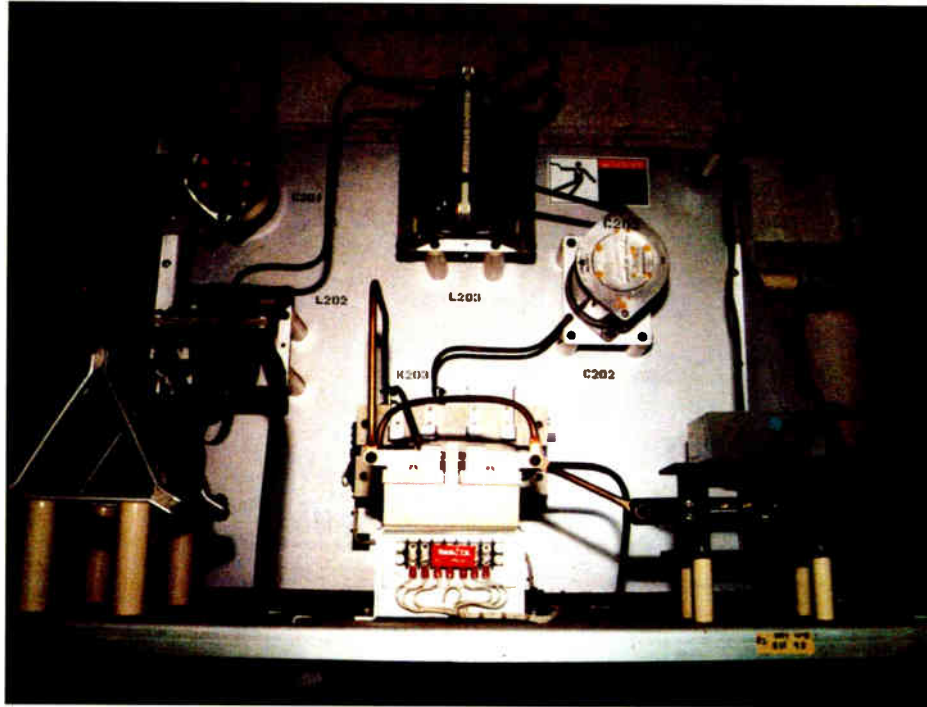


Figure 3: All components are labeled in this coupling network

vacuum capacitor brackets can cost a fortune. Handle these components carefully. For best results, use the factory-supplied mounting brackets or clips.

Some capacitors and most coils are mounted on standoff porcelain insulators. These insulators can crack or break. Moisture and dirt accumulate in the cracks and can lead to unstable performance, arcing and failure.

When tightening hardware mounted in porcelain insulators, always use a fiber washer on each end of the insulator. And remember, this is ceramic. It will break under stress. Don't over-tighten.

Do not move any of the copper pipe or strap connecting the various components. Clean them with the damp rag or vacuum but do not change the physical location.

★ ★ ★

RF contactors switch components

point to worn or binding linkage assemblies.

If you have a directional station that uses contactors, have at least one replacement contactor on the shelf. Contactors play an integral part in the AM array and losing one can keep you off the air for an extended period of time.

Finally, inspect the static drain choke or tower lighting choke for burns as shown in Fig. 2, page 27. Any sign of discoloring should be investigated.

As you button up the box, a few final thoughts.

First, make sure all components are identified. The manufacturer labeled each part in Figure 3, so they are easy to locate on the schematic.

What happens if you don't have a schematic and the parts are not labeled?

Draw out the circuit and identify the parts yourself. You may need to redo

the drawing several times. Once you've got the schematic drawn, you'll need to identify the components.

Newer coils usually have a label or plate on one of the triangular supporting struts. Capacitors usually are labeled on an end plate.

Remember to write down the capacitor values. The label identifying the capacity of the capacitor often is damaged when these components explode. Having this information before any disaster strikes will help get you back on the air quicker.

Once the components are identified on the schematic, put a copy in a plastic page protector and tape it to the wall. Keep another copy up at the transmitter building, as well.

If you've done this work at night, before closing the cabinet, get your assistant to stand outside of the enclosure. Sweep your flashlight or trouble lamp around inside the box and ask your assistant to watch for any light leaks. Seal any holes with the foam sealant you brought along. Cable entry holes should also be sealed.

Coupling network maintenance is time-consuming but, when thoroughly performed, you can do it just once a year. Keeping the box clean and weathertight is half the battle.

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

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

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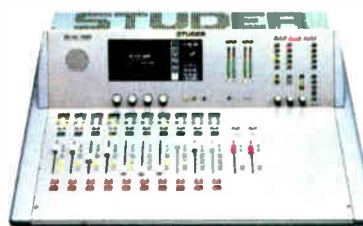
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The new Studer On-Air 1000 Digital Broadcasting Console



Mega Communications selected AP Radio as its chief content provider for its newly created all-news, Spanish-language radio station, WNNY in New York, "Noticias 1380."

WNNY is using AP broadcast, Latin American and Metro New York news wires. AP will provide approximately 250 stories per day in Spanish. WNNY also receives regional news and information relating to stories in Central and South America. ...

And AP Radio is back in at Clear Channel's four-station cluster in Springfield, Mass.

AP said WHYN(AM), WHYN(FM), WNNZ(AM) and WPKX(FM) have returned to AP as their content and information provider.

"We are looking forward to a long and growing relationship with Clear Channel Communications," said Thomas P. Callahan, general manager of AP Radio. ...

Wheatstone helped the Canadian Broadcast Corp. simplify its studio operations with the first installation of

the new digital Audioarts D-70 console.

Studio 523 is used by French Regional Radio to broadcast news and information in Toronto on CJBC and on repeaters beyond the city, according to CBC Manager of Systems Engineering (Radio) Tom Holden. That studio is equipped with a D-70 12.

Audio is routed through the console's AES interface to integrate with external automation. Studio 522 will use a larger 20-input D-70. ...

Spanish Broadcasting Systems signed a contract to buy three 816R-2C transmitters from Continental Electronics. The 21.5 kW FM transmitters will be installed at WCMQ(FM) main and WRMA(FM) auxiliary sites to serve Miami and South Florida. ...

Continental also said Dick Broadcasting took delivery of its second transmitter for combined facilities for two Birmingham, Ala., stations. The new 816R-4C will transmit for WYSF(FM), flagship station for the syndicated "The Rick and Bubba Show."

The 27.5kW transmitter was installed at a specially-designed facility that also houses a 35 kW 816-5C transmitter and a G5CPS Broadband Antenna System purchased last year from Continental for Dick Broadcasting's WZRR(FM). ...

And Continental completed the installation of an 816R-5C FM transmitter at Bristol Broadcasting's WAEZ(FM) in Greenville, Tenn. The 35 kW transmitter is the latest of Bristol's 11 Continental transmitters. ...

Nassau Broadcasting Partners, a radio group in the Northeast, was awarded an exclusive five-year contract from The Port Authority of NY and NJ (PATH) to provide news services and ad marketing sales in all 13 PATH stations.

PATH serves some 67.3 million commuters in the heavily populated New York City area and its suburbs.

Nassau projects net revenue of between \$2 million and \$3 million by the end of 2001. The group competed for the contract to provide headline news, financial reports, weather, sports, ads and PATH service messages on PATHVision. The intranet-

based broadcast system uses fiber optic cable to send information to 275 monitors covering 37 viewing zones.

Joan E. Gerberding, president of Nassau Radio Network, the national sales division of Nassau Broadcasting, was named to manage the development and performance of PATHVision for Nassau.

Gerberding said Nassau launched a Web site, [www.nassauvision.com](http://www.nassauvision.com), to "explain the concept of this new advertising medium."

Nassau, based in Princeton, N.J., owns stations primarily in the mid-sized affluent suburban markets of the northeastern United States. ...

Klotz Digital AG provided its fiber optic-based VADIS platform for the Summer 2000 Olympics in Sydney,

Australia. Klotz equipped the 110,000-seat stadium with 13 VADIS platform mainframes, delivering audio signals from multiple venues for worldwide broadcast and live sound reinforcement on-site.

Klotz said its platform created the open architecture for audio distribution, routing and format conversion. Frames were in the stadium, control rooms, performance stages and the International Broadcast Center. The company said the



Audio Director of Ceremonies Bruce Jackson, right, and Sound Engineer Steve Law in Sydney

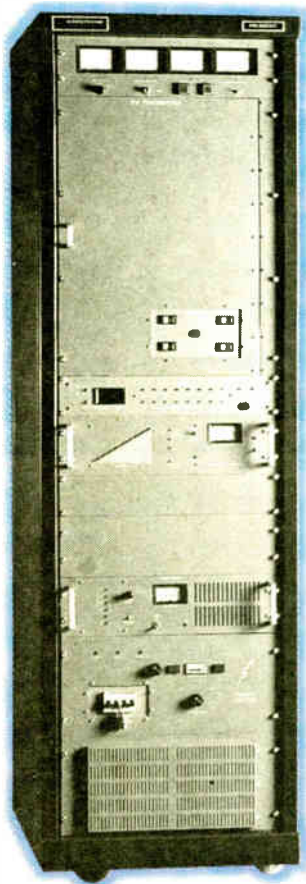
approach saved time and money beyond the limitations of copper wiring.

"Using a fiber optic network for audio distribution has proven to be the best solution for covering enormous cable runs," said Wil Stam, project engineer for Klotz Digital Australia. He said the risk of signal loss, high-frequency roll-offs and interference due to transmitter radiation is bypassed by fiber.

"Who's Buying What" is printed as a service to our readers who are interested in how their peers choose equipment and services. Information is provided by suppliers.

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

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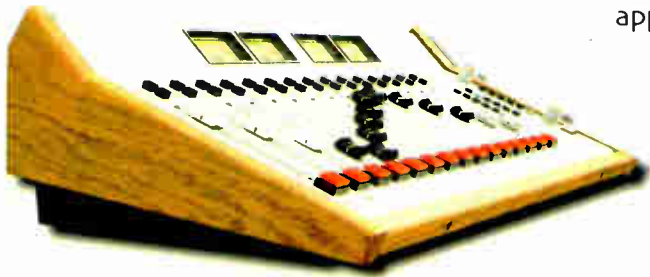
# Radio Broadcast

## 1200 Console

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- Fully DC Controlled for Reliability
- Ultra High Audio Performance
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- Modular internal electronics
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A rugged design with heavy aluminum panels, solid oak trim, 5M operation On/Off switches & full DC control, the 1200 is ideal for On Air, Production, or News applications.



### Standard Configurations

1200-5S	5 channels	\$2,295
1200-10S	10 channels	\$3,495
1200-15S	15 channels	\$4,495
(call factory for options)		

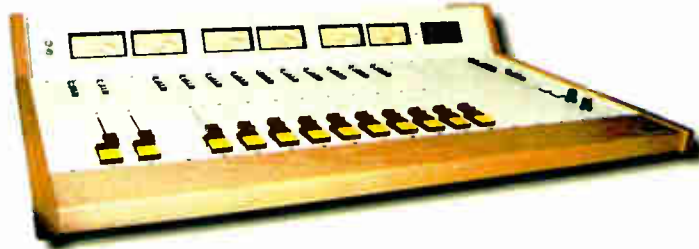
## DL4 System II

- On Air & Production System
- Live On Air, Hard Disk & Satellite Automation, Production, Jingle Box, & Segue Editor



## 12,000 Console

- 8, 18, or 28 Channel
- Fully Modular Design
- 3 Stereo Output Buses
- VCAs Remove Audio from Faders



- Telephone Talkshow Module Option
- Monitor for Control Room & 2 Studios

### Standard Configurations

12K8-6	6 channels	\$4,350
12K18-12	12 channels	\$7,075
12K-18-18	18 channels	\$8,755
(call factory for options)		

The 12,000 series is designed for the advanced On air and Production studios of the 21st century. Modular, reliable, flexible, & powerful, the 12,000 is found around the world from Tokyo to Paris to New York. The 12,000 is perfect for any size market or any radio application.

## DL4 System III

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- Complete - just add 3 PCs
- **ONLY \$16,995**

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The advanced two piece modular design of digital audio engine and familiar console control provide an effortless transition from analog to digital without hassle. No other digital console on the market features greater flexibility, performance & lower price.



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PC based hard disk audio systems & production editors have become a familiar site in radio in years, making the Revolution the ideal solution. While traditional console control is the comfortable option, high resolution LCD touch screens, reliable, take up very little desk space, and are the control system of choice in retail, commercial and industrial applications.



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The DL4 System II comes complete with a triple play & record DL4 workstation, 105 hours of audio storage, 7 input play switcher, 7 input record switcher, DL4-AUTO software for On Air, & DL4-SCHED for Production & scheduling. This powerful 2 studio system requires only 2 customer supplied PCs & installation.

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MARKET WATCH

## Philadelphia: Rich Radio Heritage

Scott Fybush

Cheese steaks. Independence Hall and the Liberty Bell. "Rocky." Think of the City of Brotherly Love and those are the first images that come to mind. For radio fans, though, those thoughts might be pushed aside by some others — "WFIL," for instance, and "WIBG."

You weren't in Philadelphia in the 1950s, '60s, and '70s? Then you missed a young DJ named Dick Clark as he got his big-city radio start on "Famous 56" WFIL(AM). Tom Donahue was up the dial on "Wibbage." WBIG(AM) — now WZZD(AM) — helping to invent top-40 radio.

Drive down the Schuylkill Expressway into Philadelphia today, and you'll hear religion on the AM spots where WFIL and WIBG used to be.

But on the FM side, with signals coming from the huge Roxborough tower farm off to your left, there's still plenty going on in the nation's No. 5 market, according to Arbitron.

Variety

"It's a market where there's one of everything, but without the competition that there used to be," said Chris Coleman, who watches Philadelphia radio for his *phillyradio.com* Web site.

"It's a very big Pennsylvania 'small'

midnight ratings, with 26.3 share of the market. (All Arbitron ratings reported in this article are in this demographic and daypart.)

Clear Channel's Philadelphia stations include urban adult contemporary WDAS-FM, contemporary hit radio WIOQ(FM), urban WUSL(FM), smooth jazz WJZ(FM), modern adult contemporary WLCE(FM) and gospel WDAS(AM).

While Clear Channel leads in AQH ratings, Infinity leads the market in revenue rank, earning \$108.2 million, according to BIA Financial Network's estimation. Clear Channel earned \$88.6 million in 1999 with its six Philadelphia stations.

Infinity's top station, in both revenue and ratings, is all-news KYW(AM). The station was No. 2 in the Arbitron summer book. BIAfn estimates that KYW earned \$38 million for Infinity in 1999, the most recent numbers available. Other Infinity stations in this market are rocker WYSP(FM), oldies WOGL-FM, talk WPHT(AM) and sports WIP(AM).

Greater Media's cluster includes classic hits WMGK(FM), rocker WMMR(FM), nostalgia WPEN(AM) and rhythmic oldies WEJM(FM).

Two more players nearly round out the ownership picture: Beasley, with country WXTU(FM), talk station WWDB-FM and ethnic WTEL(AM); and Radio One, with modern rock WPLY(FM) and urban WPHI(FM).

This is a fun game'

Yet at the very top of Philadelphia's ratings, book after book, sits a station that may be the last true standalone in a major market: adult contemporary WBEB(FM). The station, better known as "B101," is still owned by the same man who put it on the air back in 1963, Jerry Lee.

"As a standalone, the only way we can survive and prosper is by being top dog," Lee said. "Our goal in Philadelphia is to

### Philadelphia

Market rank: 5  
 Market revenue rank: 9  
 Number of FMs: 49  
 Number of AMs: 26  
 Estimated Revenue (in \$000s)  
 1996: 211,500  
 1997: 223,400  
 1998: 259,000  
 1999: 297,200  
 2000: 321,000  
 Revenue Growth:  
 '93-'98: 10.8%  
 '99-'03: 7.2% (projected)  
 Local Revenue: 63%  
 National Revenue: 37%  
 1998 Population: 4,876,200  
 Per Capita Income: \$20,463  
 Median Income: \$44,739  
 Average Household Income: \$55,612

Background: The Liberty Bell



WMMR's Pierre Robert at WMMR's 'Day Off at the Slopes' event

Clark went on to TV, of course, and Donahue to California and the birth of underground FM, but they were followed by legendary jocks like Jerry "The Geator" Blavat, Hy Lit, George Michael, Jim Nettleton, Joe Niagara and Dr. Don Rose — participants in one of the longest-running hit radio battles on the American AM dial.

town," said Sam Milkman, program director at Greater Media rocker WMMR(FM) — although most Pennsylvania small towns don't have huge station clusters controlled by companies like Infinity, Clear Channel or his employer.

Clear Channel's group leads the market in the Arbitron Summer 2000 persons 12-plus, Monday to Sunday, 6 a.m. to

be 50 percent larger 12-plus than anyone else," Lee said.

WBEB was No. 1 in Arbitron's summer book, but with only a single station. Lee commands a 6.4 market share, compared to Clear Channel's stations — 26-plus or Infinity's 21-plus — so Lee can't quite claim that kind of ratings lead.

But Lee believes the consolidation that's reduced his competition to three big clusters and two smaller ones can only help B101 stand apart.

"It's so much easier to compete with deregulation," Lee said. He pointed to the fact that his station is completely debt-free, in contrast with the debt-financed acquisitions that have seen several competitors sell for more than \$60 million.

"Jerry never said no to a good idea," said B101 PD Chris Conley, pointing out that his station spends far more than most

See PHILLY, page 36 ▶

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# Philly

► Continued from page 35

group-owned competitors on promotion and research — with more in reserve should competition force the need.

“We have a war chest for anyone who comes into the market with AC,” said Conley.

Call Lee a throwback to another era, but he’s earned the admiration of some of his competitors in the process.

“The No. 1 thing for Jerry Lee is that it’s still fun for him,” said Dave Allan, vice president/general manager of Clear Channel’s WUSL and WJZ.

True, said Lee, but hanging on to a radio station that could easily sell for nine figures means something more to him.

“Everybody else in my position would have sold,” he said. “The reason I didn’t is that this is my platform for social change,” through projects like the Jerry Lee Center for Criminology he recently endowed at the University of Pennsylvania.

## ‘All News, All The Time’

While B101 dominates the FM dial, one Philadelphia AM signal routinely draws twice the listeners of its closest competitor: Infinity’s all-news KYW at 1060 kHz.

“When you tune in, you’ve got to get the news, if we don’t get the news we’ve failed for you,” said veteran General Manager Roy Shapiro of the format that’s

occupied the 50-kW signal since Westinghouse introduced it to the market back in 1965.

What’s changed in 35 years, Shapiro said, is the number of other sources competing to provide news to his audience.



Guides at Independence National Historical Park, Philadelphia

“In 1965, there was less than 5 hours of news programming to compete against (on radio and television),” he said. “Today that number is 2,000 hours a day,” including all-news cable, television, radio and the Internet.

In fact, Shapiro said he doesn’t even look at other radio stations as much competition these days. Instead, he’s focused on TV. “If you closed your eyes and woke up at 5 a.m. and listened to TV news, you’d think you’re listening to

radio,” he said of the morning news shows that start long before sunrise on four of his city’s TV stations, including co-owned CBS affiliate KYW-TV.

How does KYW radio compete? “We just keep on moving forward with better

execution,” Shapiro said.

The landscape of KYW’s competition changed dramatically in early November, with a sudden format change at talk competitor WWDB-FM.

The Beasley-owned station had celebrated its 25th anniversary as an FM talk station in March. At just about the same time, it returned to an all-local format after a brief experiment as mostly national talk. Local hosts like Irv Homer, who had been moved to its sister AM station WTEL(AM), were back on WWDB.

But in the meantime, WWDB left FM talkers Rush Limbaugh and Dr. Laura Schlessinger — they moved to Infinity’s WPHT(AM).

In the summer book, the long-struggling talker WPHT pulled even with WWDB for the first time. Both stations posted a 2.8 rating.

On Nov. 6, WWDB dumped its talk format in favor of ’80s pop and began to promote itself as “96-5 The Point.” It sent its airstaff and GM Dennis Begley packing. (See “Death of a Philly Legend,” page 44.)



Rick Feinblatt

Would this help put WPHT back where it had been as powerhouse WCAU?

“Is it positive news for WPHT?” asks Shapiro of KYW’s sister station. “Nobody gets back to where it was, because of how fractionalized the market has become since then,” he said.

Shapiro credits Limbaugh and Schlessinger for the ratings improvement that WPHT has demonstrated.

WBEB’s Jerry Lee said without the competition from WWDB, WPHT might be capable of “something like a 3.8” share in the next book.

That’s a big improvement, but still a far cry from the ratings that “AM 1210” used to post in the 1980s and earlier, when it was CBS-owned WCAU.



Jerry Lee

In 1990, CBS abruptly fired most of WCAU’s talk hosts, flipped the 50 kilowatt clear-channel outlet to oldies WOGL(AM), mostly simulcasting WOGL-FM.

Over the decade that followed, the AM went through three more sets of call letters, two new formats, and a succession of managers, most recently GM Chris Claus, who left Infinity over the summer. (Claus held the same title for WOGL-FM.)

Until this summer, most listeners in Philly remembered the 1210 spot on the dial only as the home of Phillies baseball, if they remembered it at all. WPHT lagged far behind KYW in both ratings and revenue.

The dozen or so spots in between are filled with a whole spectrum of FM music stations, and even a few format wars still raging.



Roy Shapiro

In a market that’s nearly 20 percent African-American, urban listeners have plenty to pick from. For 25-to-54-year-old listeners, the top choice is Clear Channel’s WDAS-FM, where playlist staples like Luther Vandross and Boyz II Men helped the station celebrate its 50th anniversary this year.

The station that was once WDAS’ biggest competitor, “Power 99” WUSL, has been a sister station under the Chancellor, AMFM and Clear Channel banners for several years, aiming its hip-hop format at the 18-to-34 crowd.

“Power and ’DAS are still having the best year ever,” said WUSL’s Allen — and the newest urban entries aren’t posing much threat yet.

Radio One entered the Philadelphia market in the late ’90s when it bought modern rock WDRE(FM) and flipped the low-powered signal to urban AC as WPHI(FM), “Philly 103.9.”

“WPHI during the course of this year has dropped their ‘Russ Parr’ syndicated morning show out of Washington, and gone local because the syndication wasn’t

See PHILLY, page 38 ►

## Philadelphia Commercial Radio Market Overview

Station	Owner	Format	BIAfn's 1999 Est. Station Rev (\$000s)	Summer '00 Rating
WBEB(FM)	WEAZ-FM Radio Inc.	Soft Rock	24,000	6.4
KYW(AM)	Infinity Broadcasting	News	38,000	6.1
WDAS-FM	AMFM	Urban AC	22,500	6.1
WYSP(FM)	Infinity Broadcasting	Rock	32,000	5.4
WIOQ(FM)	AMFM	CHR/Dance	13,600	5.3
WUSL(FM)	AMFM	Urban	12,600	5.1
WJJZ(FM)	AMFM	Smth Jazz	15,400	5.0
WOGL-FM	Infinity	Oldies	17,750	4.3
WXTU(FM)	Beasley Brdcast Group	Country	9,500	3.7
WMGK(FM)	Greater Media	Clsc Hits	17,000	3.7
WMMR(FM)	Greater Media	Rock	12,900	3.5
WPLY(FM)	Radio One	Alternative	9,000	3.3
WLCE(FM)	AMFM	Rock AC	12,200	3.0
WPEN(AM)	Greater Media	Big Band	4,300	3.0
WPHT(AM)	Infinity	Talk	2,400	2.8
WWDB-FM	Beasley Brdcast Group	News/Talk	9,350	2.8
WIP(AM)	Infinity	Sprts/Talk	18,000	2.7
WPHI(FM)	Radio One	Urban	6,300	2.6
WEJM(FM)	Greater Media	R&B Oldies	4,750	2.2
WDAS(AM)	AMFM	Gospel	2,288	1.8
WHAT(AM)	Inner City	Talk	1,900	1.0
WEMG-FM	Mega Communications	Spanish	2,500	0.5
WEMG(AM)	Mega Communications	Spanish	3,100	0.4
WNAP(AM)	GHB Broadcasting	Gospel	400	0.4
WSSJ(AM)	Mega Comm Inc.	Span/Oldies	1,000	0.3
WNPV(AM)	WNPV Inc.	News/Info	600	N/A
WNWR(AM)	New World Radio Inc.	Ethnic	N/A	N/A
WTEL(AM)	Beasley Brdcast Group	Talk	700	N/A
WTMR(AM)	Beasley Brdcast Group	Christian	1,200	N/A
WWJZ(AM)	ABC Radio Inc.	Children's	800	N/A

Stations with N/A in the right column are heard in the market but are rated in distinct suburban Arbitron markets, or didn't report sufficient listeners to be rated.

**BIA Financial network** Stations are ranked in order of Arbitron Summer 2000 12+ share. Copyright 2000 the Arbitron Company. May not be quoted or reproduced without the prior written permission of Arbitron. Other information provided by BIA Financial Network through its MEDIA Access Pro Radio Analyzer Database software.

Background: Philadelphia skyline

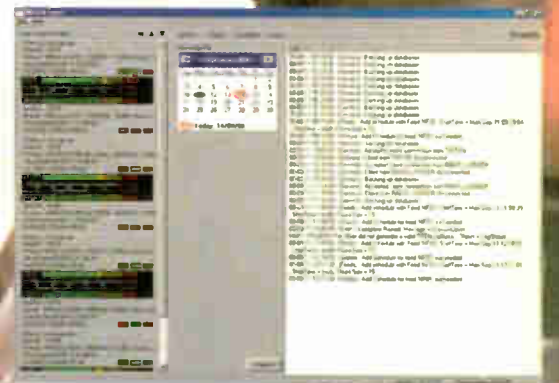
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World Radio History

# Philly

► Continued from page 36  
working," said Allen.

Inner City Broadcasting, which bought WHAT(AM) this year and bolstered its lineup of talk aimed at a black audience.

While Inner City has had success with the format on stations like New York's WLIB(AM), its limited in Philadelphia by its 1 kW "graveyard" AM outlet that's hard to hear even within city limits at night.

## Signal strength

"Whether they can do it on that signal remains to be seen," Allen said.

Philadelphia's urban audience rubs off on many of the market's other stations, too, said several of the PDs that Radio World talked to.

"The music here kind of goes thump-thump a little bit," said B101's Conley. "We play a lot of Donna Summer."

And the "blue-eyed soul" that was the hallmark of the Philadelphia sound in the 1960s and '70s is still in evidence all over the FM dial.

"We came in trying to be a hybrid — classic hits, not classic rock," said Dan Michaels, program director at Greater Media's WMGK.

"Jammin' Gold 95.7," is meant to appeal to a mainly female audience, but like many rhythmic oldies stations around the country, the format is having a hard time catching on in Philadelphia.

"It's festering," is Webmaster Coleman's blunt summation of the station that's the lowest-rated FM in the city.

"Jammin' Gold played out for African-

tion)," Feinblatt said.

That kind of one-on-one promotion is vital in Philadelphia, said WMMR's Milkman.

"It's a town where you really can promote on the street," he said. "In New York, you just can't be everywhere. You just can't go to all the right street parties."

But in his market, it's different.



WMGK's Debbi Calton

American "blue-eyed soul" in the fall of last year," said WUSL's Allen.

But after dismissing the station's PD and most of its air staff, including veteran morning man Terry "Motormouth" Young, WEJM's management said it's committed to the format.

"Radio is very important to Philadelphia because we don't have movie stars here," he said.

Instead, listeners treat the city's DJs like stars. WMMR midday jock Pierre Robert (pronounced "Ro-BEAR") has been in the market for decades, a heritage Milkman describes as a blessing.

"WMMR has the benefit of being the rock station here forever and we can leverage that into being whatever it wants to be in rock," he said, explaining that the station has "hipped it up a little bit" to attract 25- to 34-year-old listeners.

Across town, Infinity's WYSP is the major rock competition, helped along by Howard Stern in the morning (the station was Stern's first affiliate outside New York City) and Eagles football. For younger listeners, Radio One's WPLY is also competing with WMMR.

"They're in the awkward position of trying to meld modern AC with modern rock, and neither market is big enough to support an entire radio station here," said Milkman.

That modern AC niche is further eroded by one of the market's newer competitors, Clear Channel's WLCE ("Alice"), which switched from AC "Star" a year ago.

"It's a very under-radioed market, so that makes it a great place to be for radio," said Clear Channel's Allen. Indeed, one of the stations he oversees — smooth jazz WJZZ — has no real compe-



Chris Conley

dition for its share of the format pie, landing it in the top 10 with regularity.

Nearby in the ratings sits the city's lone oldies station, Infinity's WOGL-FM. "WOGL-FM is heavy in Motown, it's always been that way for years," said Coleman.

It doesn't hurt to have market legends like Jim Nettleton and Hy Lit, either, still playing the same tunes they used to spin on WFIL and WIBG.

## The lone ranger

In the early '80s, the predecessors of both WJZZ and WOGL-FM battled for CHR listeners as "Electric 106" WTRK(FM) and "Hot Hits" WCAU-FM. Today, while competing PDs cite hot AC and CHR as potential holes in the market, just one station plays the hits: Clear Channel's WIOQ.

Greater Media made WPEN one of the nation's first adult standards stations more than two decades ago, and the station still does well with its predominantly older audience.

Looking for country? There, too, just one choice awaits: Beasley's WXTU, which has had the format to itself for two decades.

Leased-time ethnic and religious programming makes its home on Beasley's WTEL and New World's WNWR, both AM daytimers, while religion is the format of choice at Salem's WFIL(AM), WZZD(AM), (990, the old WIBG), Beasley's WTMR(AM), and Family Radio's WKDN-FM.

And with Hispanics making up just 4.2 percent of the market's 4 million listeners, only one national Spanish-speaking group has entered the market. Mega Broadcasting programs Spanish hits on WEMG(AM) and Spanish oldies on WSSJ(AM), across the river in Camden, N.J.

Spin the dial all the way to the left, and three major noncommercial outlets

See PHILLY, page 40 ►



Philadelphia's Mummers at their annual New Year's Day parade

After a long run with AC as "Magic," the station changed directions in the mid-1990s to become one of the first all-'70s stations. Today, it's aimed at an audience that's about evenly divided between men and women, and it's at the top of the cluster's ratings, finishing in the No. 10 spot in the summer book.

Sister station WEJM, better known as

"We believed going into it that if there's a market in the country where it ought to work, Philadelphia is it," said Greater Media GM Rick Feinblatt.

The station is now promoting three all-music hours during the day, including 8 a.m. and 5 p.m. blocks during drivetime.

"We need to get out in the streets and the neighborhoods and promote (the sta-

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WorldRadioHistory

# Music Licensing Fees in Play

**Ken R.**

While recent newscasts focused on the clash between Napster and record companies over copyrights, another conflict looms directly over the radio landscape.

On one side are stations, many of which are represented by the not-for-profit Radio Music Licensing Committee.

On the other side are performance rights organizations Broadcast Music Inc. (BMI); American Society of Composers, Authors and Publishers (ASCAP) and SESAC Inc.

At stake are millions of dollars.

These performance rights agencies ask radio stations, club owners, restaurants and anyone else who plays music publicly to pay an annual premium based on gross revenue. These funds are distributed to the composers and publishers represented by these three organizations based on the popularity of their music.

ASCAP and BMI control the largest share of the talent pool, while SESAC represents less than 5 percent.

## Exorbitant pricing

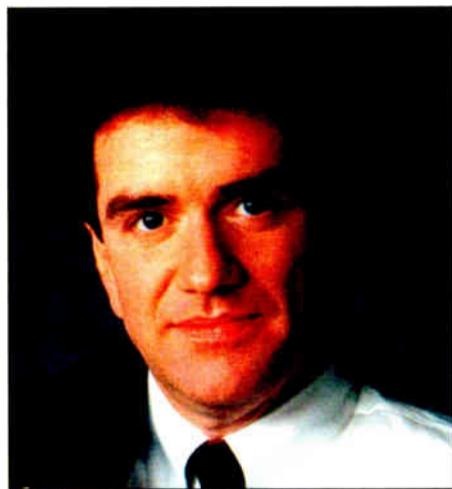
"The pricing of the whole enchilada has become exorbitant to radio stations and we have not yet been able to convince these agencies that we want to pay only for the music we play," said Glen Larkin, finance chair for RMLC and senior vice president/CFO of Bonneville International Corp.

"We are usually forced to license the entire BMI and ASCAP repertoire, even if our stations have talk or news formats that only use a few pieces of music."

Now that consolidation has taken hold, Larkin feels negotiation with the licensing agencies is easier than in the past.

"What we're trying to do is unhitch the fees from station revenue," said Larkin. "We want to find a different economic model."

Larkin feels stations have been overpaying ASCAP and BMI for years. While he doesn't expect to obtain lower fees, he hopes that the Radio Music Licensing Committee can freeze rates at current levels to save money in the future.



William Slantz

"When you combine the ASCAP, BMI and SESAC fees, it's monumental," said Larkin. "A top-10 market music license can exceed \$500,000."

The RMLC has only one full-time employee; all other services are donated. Broadcast groups contributing to the committee's efforts include Clear Channel, ABC Radio, Entercom, Cox Radio, Hispanic Broadcasting, Susquehanna Radio, Emmis Communications, Bonneville International, Jefferson-Pilot Communications, Radio One, Saga Communications, Tribune Broadcasting and Inner City Broadcasting.

David Bander, assistant vice president and director of radio licensing for ASCAP, said the revenue-based fee structure predates his term at ASCAP.

"But it's a good proxy for the size of the station audience. The greater the

audience, the greater the station income from advertising," said Bander.

"The individual performances of music have greater value because the station reaches more people."

The formula ASCAP uses to charge stations is 1.615 percent of adjusted gross revenue. These adjustments can include ad commissions, debts that are written off and other factors.

Bander recognizes that certain formats play very little music.

"That's why we offer two types of licenses: a blanket license for music formats and a 'per-program' license for other formats," said Bander. "Stations can use music up to 55 percent of the time and it's still cheaper to be on the per-program license."

ASCAP provides a Windows-based software template for stations to report music usage monthly. Stations are



David Bander

allowed to file reports electronically and annual payments are broken up into monthly installments.

BMI Assistant Vice President of Media Relations Pat Baird said her organization has about 1,300 stations taking advantage

See LICENSING, page 42 ▶

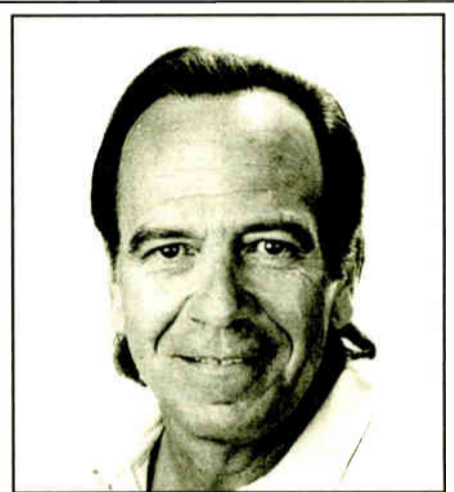
## Philly

▶ Continued from page 38

compete for ears and listener dollars.

The most established is WHYI(FM), which offers NPR's news and talk programming from a newly renovated facility on Independence Mall shared with PBS outlet WHYI-TV.

NPR listeners around the country recognize the call letters from Terry Gross' daily magazine "Fresh Air," a WHYI staple since 1975.



Jim Nettleton

carved out," said Coleman. "They'll follow the station wherever it goes."

What's next for Philadelphia radio? For many station managers and PDs, it's adapting to the multi-station clusters created since 1996. While Infinity adheres to its philosophy of maintaining separate GMs, sales staffs and even physical facilities for its stations, the other big groups are moving ahead with consolidation.

"We have separate sales and programming staffs," said Greater Media's Feinblatt. Under the "Greater Philadelphia Radio" banner, though, the group also employs a director of marketing and a director of sales to coordinate the four stations' efforts when needed.

The former AMFM stations in Philadelphia are just getting settled under new owner Clear Channel, and WUSL/WJZ GM Allen said the final management structure is still being worked out.

"We're optimistic that it's going to be a company that allows a cluster mentality," he said.

The lack of sudden changes isn't a bad thing, say those who have been in the market almost as long as Rocky Balboa.

"The market's very slow to accept change in the business community, and in the listener community," said WWDB-FM's Begley, shortly before his station's format change.

Scott Fybush ([www.fybush.com](http://www.fybush.com)) is a free-lance writer and frequent RW contributor based in Rochester, New York. 🌐



Hy Lit

Over at Temple University, WRTI(FM) established a reputation as the city's jazz station before changing its focus in 1997. That's when Philadelphia's longtime commercial classical station, WFLN(FM), was sold to Greater Media, becoming modern AC "Max" WXXM(FM) and then "Jammin' Gold" WEJM. To fill the void, Greater Media donated the WFLN record library to WRTI, which relegated jazz to the evening and overnight hours, switching to classical music during the day.

The newcomer on the public radio scene is the University of Pennsylvania's WXPB(FM), which was a student-run, low-powered station until undergoing a major power boost in the late '80s.

Today, it's where fans of Dar Williams, Ani DiFranco and Bruce Cockburn get their fill of AAA music, not to mention the home base of Public Radio International's "World Cafe."

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## COLE'S LAW

# Quarterly Lists: Back to the Future?

*In One TV Proposal, the FCC May Be Testing Re-Regulation of the Broadcast Industry*

Harry Cole

The venerable "quarterly list" of issues and programs which each broadcast licensee is required to place in its public file four times a year may be subject to overhaul, if a Federal Communication Commission proposal on the television side of the universe is any indication.

In October, the FCC proposed the use of "standardized" quarterly lists for television licensees because of concern that "the public may have difficulty determining the extent to which the station is serving the public interest" from the current quarterly lists.

## The way it was

The quarterly list has been with us for almost 20 years. The obligation was first imposed with the deregulation of radio in 1981. There the commission abandoned the "ascertainment" requirement, which had forced licensees and applicants to undertake elaborate, fully documented efforts to interview leaders of various specific elements in the community as well as random members of the general public.

In place of "ascertainment," the FCC required simply that radio broadcasters include in their local public inspection files lists reflecting, (a) issues which the licensee had determined (through any mechanism of the licensee's choosing) to be important to the station's audience and (b) programming aired in response to those issues.

Initially, the quarterly lists needed to be representative of some, but not necessarily all, of the station's programming. However, at the insistence of the U.S. Court of Appeals for the D.C. Circuit, the commission then specified that the quarterly lists must reflect the station's most significant treatment of the issues included on the list.

While the list as originally conceived by the commission was limited to a maximum of 10 issues, that cap was lifted in 1986. The quarterly list requirement was eventually imposed on television licensees in connection with the deregulation of the TV industry in the mid-1980s.

The idea underlying the quarterly list requirement is that the lists provide members of the public an easy way to determine how each station serves the public interest. Of course, the public might be better and more directly able to make that determination simply by listening to (or, in the case of television, watching) the station in order to find out what the station is programming.

But in the view of the commission and the court, the quarterly list should do the trick even if the inquisitive members of the public have chosen not to be members of the audience.

Historically, the commission has dictated no particular format requirements for the quarterly lists. As a result, licensees have been free to set up their lists in pretty much any way they like. And because the lists are supposed to reflect the station's public service efforts, each licensee has the obvious incentive to present an appropriately detailed and

clearly laid-out description of that programming.

As a practical matter, the quarterly list requirement has not been a matter of aggressive ongoing regulation by the commission. The commission itself seldom if ever has occasion even to lay eyes on any station's quarterly lists, much less assess the contents of such lists.

Nor do quarterly lists appear to have been the source of a substantial amount of litigation initiated by members of the public, outraged at what they found

or didn't find in one or another station's lists.

When you get right down to it, the commission imposed the quarterly list requirement to justify its deregulation effort without seeming to ignore the "public interest" consideration of non-entertainment programming.

## Protection

In other words, the commission could tell the court, "Look, while we do not require ascertainment of minimum levels of non-entertainment programming, we still require that broadcasters themselves maintain lists of that programming for review by the public.

## Licensing

► Continued from page 40

of a per-program payment plan, representing about 15 percent of the stations it licenses.

"We have very good relationships with our stations and in fact, BMI controls the largest share of licensed music," said Baird. "BMI still feels that the economic model of tying compensation to station revenue is valid."

Deborah Houghton is vice president of broadcast and cable licensing for the smallest of the music performance agencies, SESAC.

"What we do is similar to ASCAP and BMI," said Houghton. "We give the stations permission to use our entire repertoire. Our song writers include Bob Dylan, Paul Shaffer and Neil Diamond, among others."



Jon Weiss

SESAC offers only a blanket fee and does not have a per program option, a frustration to some broadcasters.

The licensing organizations engender strong reactions among radio station managers.

"Although they account for less than 5 percent of the music played on most stations, they want fees equivalent to the 'big boys,'" said Larry Fuss, president and general manager of Delta Radio Inc. in Cleveland, Miss, in reference to SESAC.

"Their attitude is, 'This is what the rate is and we're not changing it for anybody.'"

Fuss said SESAC has automatic annual fee increases written into its contract that are not tied to any measurable

index, such as the rate of inflation or cost of living.

"They're just arbitrary increases because SESAC wants more money," said Fuss. "I've offered to sign a contract without the automatic increases, but they refused."

Houghton of SESAC sees things differently. It hired Broadcast Data Systems to develop a fingerprinting monitoring system to identify the use of SESAC music.

"We implemented this as a test in 1994 and across the board in 1996," said Houghton. "Radio stations are reasonable with us because they know that we know which performances are aired on which stations."

To be fair to the thousands of radio stations, the three music-licensing agencies have agreed to treat all similarly situated stations the same. There is no negotiation with individual stations, they say.

William G. Slantz, president of William G. Slantz Co., is a consultant to the broadcast industry in music-licensing negotiation.

## Constant commerce

As a former employee of ASCAP, Slantz saw the frustration of the broadcasters in their relationship with performance-licensing companies.

"Stations are really in the business of selling commercials," said Slantz. "But in order to attract listeners they usually play music which gives them their profits. The copyright holders feel they are entitled to a piece of that action."

"While ASCAP and BMI can't negotiate with individual stations, the stations do have a choice of different license options and that's where we can help," said Slantz, whose company charges his station clients only a percentage of the money he saves them. His company also helps the stations fill out their financial and music reporting forms.

"Actually, I think that broadcasters provide a valuable service to the songwriters and publishers by getting their music out there in the first place," said Slantz. "I believe that should be enough. The bottom line is that the station is making the music successful."

"It's arrogant of the music industry to ask someone to sell something for them, and then ask them for a commission on it," said Slantz.

When the Radio Music Licensing Committee and the performance rights

"That way, if there turns out to be a problem, the public can alert us, and the public interest will be protected." The court bought the argument.

As far as broadcasters were concerned, while preparation of the quarterly lists may be a four-times-a-year hassle, that's a small price to pay for deregulation.

And the public? Well, they get the quarterly lists to review, if they want to. But as a practical matter, how often does the public really look at quarterly lists? Our purely unscientific observation at Team Cole's Law is that members of the public seldom, if ever, seek to review public files at all.

So while the quarterly lists are certainly there for the public's perusal, the public generally declines the opportunity.

For some unfathomable reason, however, the commission now wants to mess

See COLE, page 43 ►



Glen Larkin

organizations can't agree on fair compensation, they go to the next step, which is litigation.

"ASCAP and BMI operate under a government-consent decree," said Jonathan Weiss, partner in Weil, Gotshal & Manges LLP. "There is a rate court which has oversight," said Weiss, whose firm represents the RMLC in this action.

There are separate rules for certain religious and public broadcasters, but since 1940 the RMLC has represented most commercial broadcasters. The agreement with ASCAP will expire this year, the BMI agreement expired in 1996.

"We're in the midst of litigation right now with BMI on behalf of about 3,000 stations," said Weiss.

"SESAC is smaller and they don't operate under any decree," said Weiss. "In instances where stations refuse to pay them, they are able to sue radio stations on behalf of their composers and publishers."

Theoretically, stations are free to negotiate with individual music copyright holders and not pay ASCAP and BMI. However as a practical matter this would be an almost impossible task. Weiss sees a future where ASCAP and BMI might hold less power over stations.

"We might be able to bypass them at some point. There are already industries including TV where per program licenses are more actively used. With the new technology, radio stations might soon be able to negotiate directly with the sources of the music."

Ken R. is a former broadcaster who now writes full time. 

# Cole

► Continued from page 42

with the longstanding arrangement, at least insofar as TV stations are concerned. The commission is contemplating revisions to "standardize" quarterly lists to include information related to "various concrete ways in which (the stations) meet certain public interest obligations."

For example, the standardized form would include "categories of programming" — say, local and national news, or local and national public affairs, or programming that "contributes to political discourse." You get the idea.

The FCC also is contemplating that the standardized lists would include some description of the manner(s) in which the licensee has informed itself of the "issues" to which programming is addressed.

## Familiar

Maybe we're missing something, but it looks like the commission is moving back in the direction of regulation, which it supposedly abandoned nearly 20 years ago.

We could understand such a move if there had been some identifiable problem arising from quarterly lists as they have been compiled for years, or if there had been some drop in public service programming which might be traced to the quarterly list requirements. But there does not seem to be any such problem.

To the contrary, as a basis for its proposal, the commission cites the observations of one commenter that a member of the public seeking review of a station's public file "might be required to go to different areas in a building to inspect the public files."

That may be true, but changing the contents of the quarterly lists (as the commission proposes) will not affect their location within any given station.

Similarly, the commission mentions a commenter's concern that public files of different stations are not consistent and uniform. That too may be true, but how does it affect the determination that one particular station is or is not serving the public interest?

Is that determination necessarily dependent on some comparison with other stations? The commission's proposal seems to suggest that the commission believes so, even though we frankly would have thought that a station's public service should be more an absolute, rather than a comparative, determination.

Our completely uneducated hunch is that the commission may be experiencing some second thoughts about deregulation. Such a pendulum-like phenomenon is not unknown in regulatory circles.

Here, while the agency's concern may not be so great that the commission is willing to re-inject itself directly into program regulation, it may be figuring that it can achieve nearly the same goal indirectly through "standardization" of quarterly lists.

For the most part, the FCC's proposal should not raise too many concerns for broadcasters. A station with program-

ming that meets its public interest obligations should not be concerned about having to describe that programming, even though more detailed descriptions than

the beginning of a re-regulation trend in which long-abandoned regulations are re-imposed. We expect that the agency will disclaim any such re-regulatory

at present relates *only* to television licensees, and the FCC has given *no* indication at all that any similar proposal might be considered for radio licensees.

However, it is difficult to perceive how the commission could distinguish between the audio and video services in the limited context of quarterly lists. At a minimum, radio broadcasters may wish to monitor the FCC's "standardization" proposals on the off chance that those proposals may sooner or later be directed to the radio industry.

If you have any questions about this, you should be sure to consult with your communications counsel.

Harry Cole is a principal in the Washington-based law firm of Bechtel & Cole, Chartered. Reach him at (202) 833-4190 or on the Internet at hfcole@coleslaw.com

## It looks like the FCC is moving back in the direction of regulation, which it supposedly abandoned nearly 20 years ago.

are now required could obviously pose some serious inconvenience.

The more ominous concern here is that the commission's proposal may be

intent. For our part, we intend to take such disclaimers with a reasonable measure of salt.

Again, we emphasize that the proposal



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One of SS32 touchscreens is shown above. The log is at the left. Instant access Cart Walls are at the right. Visit [scottstudios.com](http://scottstudios.com) or call 800 SCOTT 77 for info.

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## Correction

An article in the Oct. 25 issue misspelled the name of Lightnigcast Inc.

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# The Death of a Philly Legend

**Tom MacDonald**

It was a little before 9 a.m. on Nov. 6, the day before Election Day. Pat Farnack and Earle Bailey, the morning news anchors on WWDB-FM in Philadelphia, were told by management not to introduce Gil Gross, the host of the talk show that was to follow the news. The format of the country's first FM station to go talk was about to be changed after 25 years.

Instead, a pre-recorded, automated female voice started counting down to the new format, and the employees of the Beasley Broadcast Group station were brought together for a meeting.

Company COO Bruce Beasley told them that General Manager Dennis Begley and Sales Manager Dan Sullivan had been fired, according to staff members who were present. The other employees would be replaced immediately by an automation system airing a new '80s format until live personalities were gradually introduced.

There had been rumors throughout the Philadelphia broadcast community for months that Beasley Broadcast Group was going to do something at WWDB. The station was sinking in the ratings, especially since the move last January to hand over syndicated talkers Dr. Laura and Rush Limbaugh to rival CBS-owned WPHT(AM).

That station, the old WCAU(AM) 1210, now bills itself "The Only Talk Station in Town" in on-air liners.

But the switch to '80s music at WWDB was a shock, especially to the hosts, producers and news people who lost their jobs. Many simply sat around the station after the meeting; some answered listeners' phone calls to explain the format switch, according to staffers who did not wish to be quoted by name.

## Complete change

According to a statement from the Beasley Broadcast Group, the reformatted WWDB will deliver a sound that Philadelphia audiences have demanded. The format was chosen after an exhaustive market survey and confirmation of its success in other major markets.

According to one employee, staffers had assumed that the all-news morning show would not survive and that afternoon hosts Jay Sorensen and Hilarie Barsky would be moved to the coveted morning slot.

Some employees, according to one source, discovered in the station's computer system that management had had its voiceover talent cut new promos for a Jay and Hilarie morning show.

Barsky said they were offered a new contract to take over the morning show and were disappointed when the decision was made to change the station to music. She said the duo had been gaining a foothold in the afternoons and expected to expand on it in morning drive.

When asked about the morning show change, Beasley Director of Corporate Communications Denyse S. Mesnik said, "Beasley Broadcast Group's company policy is not to comment on internal station procedures or operations."

Begley had negotiated new contracts with the pair, contracts that were never signed, according to Barsky. She said Begley had been poised to make the move two days after the talk format was dropped.

Instead, Begley was the first to be fired, then Sorensen and Barsky and the rest of

the WWDB staff. Management at the cross-town Beasley station, WXTU(FM), will handle duties at WWDB.

The station also is expected to drop its legendary call letters. They stood for the first owners' names, William and Dolly Banks, who changed the station to talk in 1975.

## Out of a job

News Director Kirk Dorn is one of those looking for a new job. Dorn had left KYW(AM) to run the news department. Dorn said the Beasleys didn't give their "news in the morning, talk the rest of the day" format a chance to mature.

"Habits take a long time to form," Dorn said of the switch to an all-news morning show a year and a half ago. "The company's patience just ran out."

Dorn also is disappointed that "The Point," as the new station is now called, is supported by a major TV advertising effort, which sources estimated will cost Beasley \$1.5 million.

"They told us they didn't believe in advertising, then they started the TV campaign when the changed format," said Dorn.

Beasley's Mesnik would not comment when asked about the TV campaign in support of the new format or any other matter related to the format flip.

WWDB had undergone a ratings decline for years. Once No. 2 in the 12-plus ratings beauty contest, there was more to the story of the station's slide than last winter's loss of Limbaugh and Dr. Laura.



WWDB-FM's logo until Nov. 6

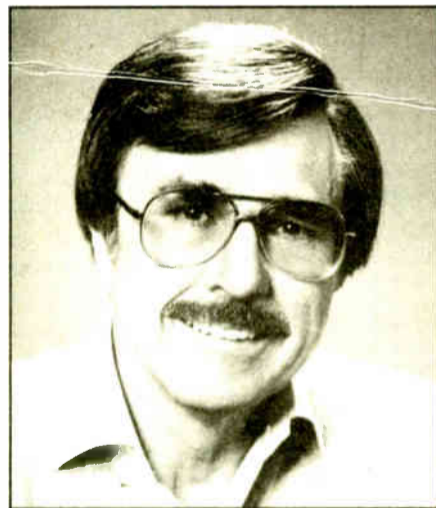
The station had changed hands four times in 15 years, from Philadelphia attorney Regan Henry, to Chuck Schwartz's Panache Broadcasting to Charlie Banta's Mercury Broadcasting and finally to the Beasley Broadcast Group in 1997.

## Learning From the Radio Greats

**Scott Fybus**

How do you reduce a room full of hundreds of radio professionals to helpless laughter? Putting legendary air talents Casey Kasem, Gary Owens and Dr. Don Rose together is a pretty good start.

"This is the staff meeting from hell over here," quipped veteran consultant Lee Abrams from across the podium as Owens and Rose traded jokes during the "Radio Legends" panel that closed out the sessions at the recent NAB Radio Show in San Francisco.



Gary Owens

But amidst the memories and the jokes, the panelists also offered some serious insights into the future of the business they've helped to shape over the last few decades.

## Long view

For Abrams, after 30 years of creating new broadcast formats like classic rock, it's now time to tear apart much of what he's learned and rebuild radio from scratch.

As the director of programming for XM Satellite Radio, he's in charge of creating 100 new "living, breathing" radio stations in a matter of months.

"Come up with 100 ideas and as long as 30 of them work, you're batting .300," he said. "Nobody will remember the 70 that didn't work."

But don't expect to hear some of the format tricks Abrams made famous, like "two-fer Tuesdays."

"We have to, for survival, throw out the playbook," he said. "We have to build a sound that's as fresh to today's FM listener as FM was to AM listeners in the 1970s. We believe the playbook hasn't been rewritten in 30 years, and it's up to us to rewrite it."

## Secret to success

While Abrams rewrites the playbook, on-air talent like Kasem and Owens say their secret to success lies in doing what they've always done.

"If someone asks, what's the most important thing in radio," Kasem said, "I will say consistency, even if it means you're consistently bad."

Kasem also urged those new to the business to constantly ask questions. "That, I think, perpetuated my career in broadcasting, because I was never afraid to make a mistake," he said.

Mistakes or not, the voice of "Laugh-In" said he and his colleagues entered the world of broadcasting at the right time.

"The '50s were a transitional time," said Owens. "Mad Magazine was becoming big ... and if you did something different, you would kind of stand out."

Among Owens' first attention-grabbing stunts: persuading listeners of Oakland, Calif., station KEWB(FM) to get out of their cars on the Golden Gate Bridge and "tap-dance for peace."

While the AM top-40 days that produced Kasem, Owens and Rose are long gone, the jocks and programmers agree that there's still room for a new generation of radio people to do what they did.

"The talent in our industry is just great," said Kasem. "Look at where they're looking now for talent for TV —

Dr. Jim Corea, a talk show host who has been on the station since it went talk, said it was "bad management" that led to the station's format change.

Corea also points to the decision to split up the talk show hosts about a year and a half ago for an ill-fated attempt to support a FM and an AM station on 860 kHz. The AM station has been switched back to ethnic and religious programming.

Radio infomercials were a staple of WWDB programming before the switch. Listeners could hear everything from food supplement ads to extremely personal vanity product infomercials in every daypart.

Some staffers who didn't want to be quoted called it the "infomercial crack pipe" that did the station in.

Corea, host of many of the paid programs, said the infomercials "weren't the problem."

Many of the talk show hosts are still under long-term contracts, like Irv Homer, who said he's going to be on the payroll "until 2002."

Homer said he wasn't sure he was ready to return to another radio station, unless he finds "some sanity in management."

Tom Mac Donald is a news reporter for Metro Networks in Philadelphia, which supplied news for WWDB until the format change.

they're looking in radio."

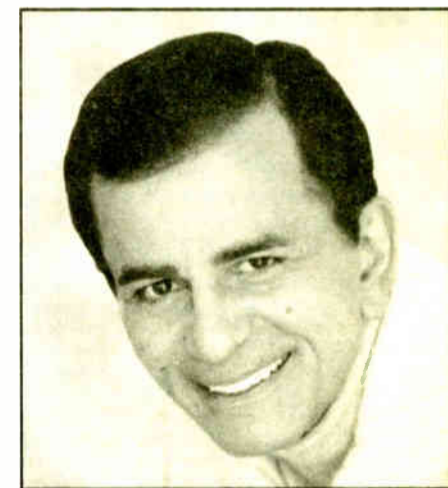
For programmers, too, there are still challenges.

"The real ratings battles are in the smaller markets," said consultant Kent Burkhardt. "If you can win in Amarillo, Texas, you can win anywhere."

To help overcome the idea that program directors don't understand the business aspect of radio, as well as offer young programmers role models, Burkhardt has founded a new group called "Programmers to Presidents."

Its charter members include top executives like CBS' Dan Mason and Clear Channel's Randy Michaels, who began their careers on the programming side of the business.

Perhaps those would-be programmers could benefit from one final word of advice from Owens, direct from "beautiful downtown Burbank:"



Casey Kasem

"Whatever you do, hone your skills. Hone your craft. If you have a piece of cheese with you, hone your Kraft right now."

Scott Fybus is the editor of NorthEast Radio Watch when he's not reporting for Time Warner's R News cable channel in Rochester, N.Y.

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Cash payment will be paid to the person registering the AudioSonix software. In the event that a station's policies prohibit employees accepting prizes, payment will be made to the station. Winner will be notified by email with the address given at the time of software registration. A list of contest winners will be available on the AudioSonix website after January 30th 2001.

All winning registrants will receive their prizes within 30 days after the contest ends. Contest applies to new registrants only.

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# Small Markets Need Radio News

## Scott Fybush

Whether it's as small as a Red Cross blood drive or as big as a tornado in the middle of downtown, local news is a vital service for broadcasters to provide in the face of growing competition from other media.

"Whenever anything is happening, we have someone there to report on it, no matter how insignificant it seems. Those are the things people want to hear about," said Jay Fisher, president/general manager of KTKS(FM) in Lake of the Ozarks, Mo.

But providing that coverage in a time of shrinking budgets and growing sta-

tion clusters isn't always an easy task.

That's why the station managers and news directors who gathered at The

drain on the bottom line.

At Dick Broadcasting's four stations in Knoxville, Tenn., Operations

**If there's a tornado in downtown Knoxville, we don't think people want to hear the latest Kenny G record.**

— Mike Hammond

NAB Radio Show said it's important to make sure everyone at the radio station knows that news is more than just a

Manager Mike Hammond sees that every station employee is an honorary member of the news team. (As of Oct. 1,

Citadel Communications Corp. was to own these stations.)

"We tell them that if they see any kind of event happen, get on the cell phone and call us," said the operations manager of Dick Broadcasting's cluster.

By involving the entire station in news, Hammond said it's easier to persuade them to break format when an emergency occurs.

"We even break format on our smooth jazz station," he said. "If there's a tornado in downtown Knoxville, we don't think people want to hear the latest Kenny G record."

That sort of local commitment, Hammond said, is what radio stations will need to withstand the competition from satellite radio and the Internet.

"I say bring it on, because if we've got a tornado in downtown Knoxville, (listeners) are going to come to my radio station — they're not going to go to the Internet and they're not going to go to satellite radio."

Ask station news directors what their biggest challenge is, though, and they'll point to the difficulty of finding and retaining talented radio journalists.

In an industry that's accustomed to fierce competition, Program Director Don Schrack of KMPH-FM in Fresno, Calif., said some cooperation is in order.

"In the last 12 months, I've lost people to KABC-TV in Los Angeles, KCRA-TV in Sacramento," and other stations, he said.


While he's sorry to see them go, he said he's using their departures as a recruiting tool by asking the larger stations to send him talent that might not be quite ready for a major market.

Training is also a vital part of any news director's job, the panelists say.

"There is nothing more boring than a boring newscast," said Hammond, who holds weekly sessions with his reporters to coach them on making their newscasts more relevant to listeners' needs.

And if all else fails, Hammond said, make sure the part-timers at least know what to do.

After a weekend fire destroyed nearly a block of downtown Knoxville while the station's part-time staffers sat by and said nothing on the air, "I made up my mind that wasn't going to happen again," he said.

The result: a step-by-step manual that everyone in the station can use, guiding him or her through the basics of putting news coverage on the air. 

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## STATION SERVICES

### NBG Syndicates The Complete Sheet'

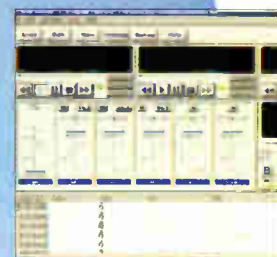
NBG Radio Network Inc. has signed a three-year deal to syndicate "The Complete Sheet," a morning show prep service.

"The Complete Sheet" is written by Johnny Vega, Bryan Crain and Charlie Reinke. The daily service, which boasts 230 station affiliates, provides up to 25 pages of showbiz news, "Weird News," jokes, top-ten lists, listener phone topics and funny bit ideas.

For more information call Gina DeWitt at NBG Radio Network at (503) 802-4624 ext. 784, e-mail gina@nbgradio.com or visit www.TheCompleteSheet.com

# Studio Sessions

**ATR:  
Back to  
Business**



**See Page 48**

Radio World

Resource for Radio On-Air, Production and Recording

December 6, 2000

PRODUCT EVALUATION

## 4215: Simultaneous Ins and Outs

Jim Withers

Eight years ago, I kluged together a rudimentary hard-drive-based audio system using a 386 PC and a state-of-the-art 8-bit, ISA slot consumer sound card.

Talk about digital grunge. As the cigarette ad said, "We've come a long way, baby!"

The AudioScience ASI4215 digital audio card is so far advanced from that old 8-bit card that it does not even belong in the same product category. With the advances in PC horsepower, disk size and access speed, audio files can be written and read from the hard drive much faster than before.

### Multiple streams

The AudioScience card takes advantage of faster access time by using a sophisticated DSP chip that allows simultaneous recording and playback.

In fact, the card can play four streams of 44.1 kHz/16-bit sound while



The AudioScience ASI4215 digital audio card

recording a fifth stream. Each stream can also be set to either linear PCM or compressed MPEG II.

This translates into incredible flexibility

for the user. Instead of delegating an entire hard-drive system for, say, a news-

feed delay, the AudioScience card allows the recording to take place on a hard drive system already doing duty as a full-time playback system.

This is possible because the card uses a separate sample rate generator for each stream. This design allows compression rates to be adjusted on a channel-by-channel basis, making multiple-format audio stream integration easy.

Want to mix 32 kHz PCM playback with 44.1 kHz MPEG? That is not a problem with the ASI4215.

From a critical-ear standpoint, this card sounds good. With up to 50 kHz sampling and a 16-bit word, the card is transparent; what goes in, comes back out.

The analog portion of the card is robust as well. I cranked up the input on the card about 20 dB over nominal and could hear no clipping or overshoot.

The card I tested came without drivers, which I thought might be a problem. However, I went to the AudioScience Web page at [www.audioscience.com](http://www.audioscience.com), went to the driver page and downloaded what I needed.

See ASI, page 50 ▶

PRODUCT EVALUATION

## Adaptec Solves Cable Problems

Carl Lindemann

Adaptec is best-known for making SCSI adapter cards and CD-R software. The entry of the company into the SCSI cable business seems peripheral to the cards and software. But the quality of

drives or CD-R burners.

I bought a cheap mini 50-pin to mini 50-pin cable to connect an external Yamaha CD-R to an Adaptec card installed in a PC. After a few months, the CD-R stopped working and I started receiving error messages.



An Adaptec high-density 68-pin to 50-pin SCSI cable

SCSI cables can make a major difference in whether the cards and software work properly.

I discovered this the hard way. Looking through the computer wholesale junk mail, I noticed a wide range of prices for SCSI cables. Typically, external cables are not packaged with either external hard

The unit was under warranty, so I called Yamaha tech support and the company swapped it for another. A few months later, similar problems began to appear.

As always, it was an irritating, intermittent problem. Sometimes the CD burns

See CABLES, page 50 ▶

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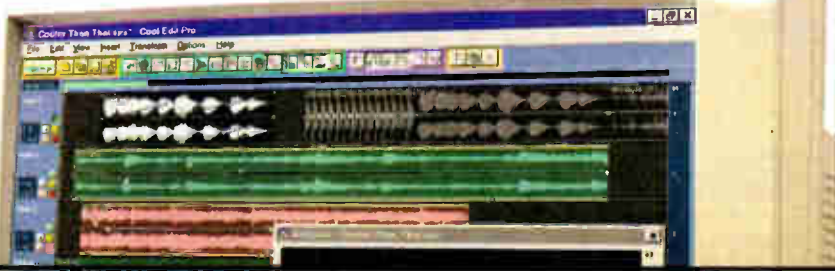
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# It's Back to Business at ATR

Alan R. Peterson

Okay, time to stop dwelling on radio station clocks and begin getting back to the actual station.

Progress continues on Annandale Terrace Radio — ATR 1170 — but the going is slow. I want to be sure the thing works properly before permanently bolting it to my roof.

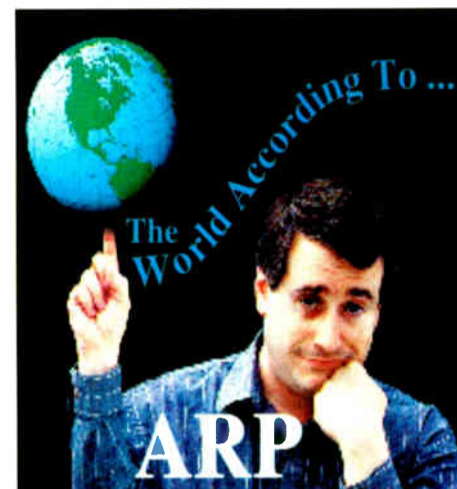
Among the snags I am running into: I may have to consider a different frequency, my Internet connection has slowed to snail speed, I am being asked my advice on firing up Part 15 stations in other communities, and I find myself tantalized by numerous software packages that promise full station automation for little money.

another animal. I picked 1170 kHz, as it was an unused frequency here in Washington area and the closest licensed station on that frequency is powerhouse WWVA(AM) in Wheeling, W. Va.

While that station can be heard in Washington well after sunset, it does not appear to have a majority of listeners in the pocket of town I call home. But a few dozen yards down the road, ATR is completely wiped out by WWVA. *Yards!* If I want to have a receivable signal anytime after 4 p.m., I had better rethink my dial position.

### Outside queries

Because the first of the ATR articles appeared here, my e-mail has been



can sympathize.

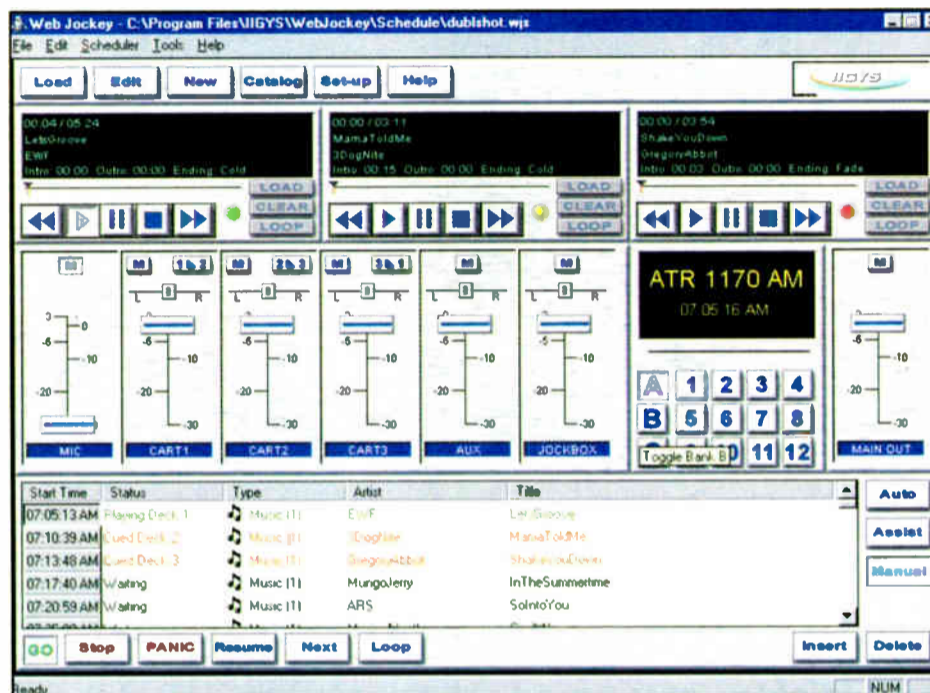
Admittedly, I have also enjoyed some fun e-mail on the topic of Part 15 radio. John Devecka, VP of sales for LPB Communications, suggested a great bumper that tosses a wink at the low-power aspect of ATR:

*"(Laser blast) Burning up the airwaves with one hundred thhhhhousand (micro)watts of flamethrowing power! ATR-1170!"*

Pat O'Brien and Jim Cartwright of KSYZ-FM in Grand Island, Neb., produced a hysterical ATR quarter-hour imager and e-mailed it to me as an MP3. It repeats an idea published earlier:

*"(Laser zaps) Broadcasting to the galaxy with less power than a firefly's a\*\*! ATR-1170."*

Support for Part 15 AM came all the way from broadcast engineer Greg Stoddard of Indiana, proprietor of "Radio Greg," his own low-power endeavor. Greg offers free airtime to neighborhood kids to do their own shows, and on days when it looks as if bad weather is going to force snow emergencies, he rebroadcasts NWS radio all day.



Cheap and versatile automation software abounds for the micro-broadcaster. ATR is vacillating between WebJockey from IIGYS (above) and WinJay (below), an Italian-made scheduler and playback system for the PC.

That is not to say I haven't been hitting the air. My little AM-2000 transmitter has been moved to a short mast to stake out some general coverage around my immediate neighborhood. The initial setup that I used during my review of the unit (RW, June 21) turned out to be impractical.

I had been hoping to go up full-time by Labor Day, but distractions, general home life and the technical snafus have sorta changed the agenda a little.

### Hello operator

The original rooftop location for my 100 milliwatt gave me the coverage I wanted — a radius of up to four blocks — but did nothing for my Internet connection. The double phone line entering my house picked up the signal.

The interference was not enough to actually cause program audio to be heard in the phone line, but it did clobber my bit rate. I watched my dialup line drop from close to 50 kbps to about 4.6 kbps when the transmitter was on. Hard for those bits to swim upstream against a current, I suppose.

Moving the mast to the other side of the house cleaned things up considerably, but no doubt chewed up the phone line of my neighbor next door. So, now there are ferrite beads and donuts everywhere in the basement, and a call is in to the phone company, requesting their help in choking down the phone line at the pole.

The frequency issue is altogether

buzzing with questions from people looking to launch similar operations in their communities.

Often, the curious party lives in or near a retirement community and just wants to do something nice for the residents. Other queries come from individuals wanting to "play radio," and some realizing they will never qualify for LPFM and just have a need to put up a stick without going the pirate route.

I think some members of the latter group are the folks that need the most guidance. After describing essential parts of my rig to one curious party, like the mixer, the on-air processor and maybe a mic or two, the response I received was, "What are those for?"

"For getting *on the air*," came my rather astonished response.

"I thought the transmitter did all that," replied the writer. "You mean I would have to buy more equipment?"

My best guess about this fellow was that, as a youngster, he used to broadcast all the way to next door by holding down the button of his CB walkie-talkie and playing a record into the microphone. I



Stoddard may not get the range of the Big Boys, but it sure sounds like he knows how to serve his immediate community.

Of course, what do I do when I'm off to the day job? I have had occasion to look into numerous automation programs that can run on el-junko computers. Commercial products aside, I have found no shortage of freebies and cheapies out there in cyberspace.

These products have become inexpensive and plentiful, thanks in great part to Windows DirectSound, which

See ARP, page 57 ▶

Did you see these breaking stories?

ITU: 'We Think We Like AM IBOC'

Syntrillium Releases Two New Plug-ins for CE2K

Four Additions to Arbitron Advisory Council

Rolling Stone Radio Launches on Net

iBiquity Targets Consumer Product Marketing

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AM 900  
GAYLORD

May 10, 2000

Mr. Rafael Arreaza  
OMB America  
3100 N.W. 72<sup>nd</sup> Ave.  
Miami, FL 33122

Dear Rafael:

I writing to tell you how happy we are with our new OMB 10,000 watt transmitter and OMB antenna system. **It is fantastic!**

I have owned many brands of transmitters and antennas in the past. Some have worked better then others. The performance of your OMB transmitter, exciter and antenna has been as good or better then any other equipment I've ever owned.

**The transmitter has been rock solid**, we set it and it does not deviate, it works great. The same can be said for the exciter and power amplifier. Your antenna system also works great and provides fantastic coverage for our listeners.

I am especially happy with the simplicity of your systems. In today's complex world, everyone seems to be trying to complicate everything. **The simplicity of your equipment is a breath of fresh air.** It makes installation and maintenance easy and I'm sure it plays a part in keeping your equipment affordable.

I can't forget affordability. It was one of the major reasons I considered OMB when I started my decision making process. I did a lot of research and came to the conclusion that **OMB would provide me more for my dollar.** OMB did just that and more. Your products and customer service have far exceeded my expectations.

In closing, I recommend OMB to any broadcaster and my doors are open to anyone who would like to see your products in action.

Thanks for all your help and your great products.

Sincerely,



Kent D. Smith  
President  
Darby Advertising Inc.

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# Cables

► Continued from page 47  
would fail. Was it another bad burner?

After more calls to tech support, I was about to give up. But I had recently received an Adaptec 1480 SCSI PC Card for my laptop. The problem and the error messages disappeared after connecting the burner through the card. It was not the drive or the SCSI card — it was the cable.

## The next step

According to Joan Konsdorf, vice president of customer services and support at Adaptec, some 20 percent of the tech support calls received boil down to bad cables.

The best solution was not to recommend particular brands or manufacturers of SCSI cables, but to bring those capabilities in-house. Though it seems odd, the cable unit reports to her division.

"Several years ago, we did a root/cause analysis to see what we could do to

ucts can eliminate dealing with tech support.

As SCSI standards quickly evolved from the simple single-ended 8-bit connections to the LVD SCSI Ultra160 standard and beyond, cabling becomes more crucial as the demands on equipment multiply.

## Less interference

The Low Voltage Differential found in Ultra2 and Ultra160 is a shift from unbalanced to balanced connections to help filter out noise that can interfere with data transfer. It also allows cable lengths between devices to double over previous SCSI setups.

A cable product engineer I spoke with at Adaptec sees the adoption of the new balanced design as only a part of the solution.

The engineer said there is a lot of noise interference that comes into play and it starts to affect the digital signals. So the company uses various techniques such as better insulation material on the conductor and to have the wires twisted.

**Product Capsule:**  
**Adaptec SCSI cables**

**Thumbs Up**  
 ✓ Guaranteed compatibility and reliability with Adaptec SCSI cards.

**Thumbs Down**  
 ✓ Price  
 ✓ Not bundling with cards

For more information contact Adaptec in California at (408) 945-8600 or visit the Web site at [www.adaptec.com](http://www.adaptec.com)

with the cards is that the interfaces need to connect with different SCSI devices. In other words, the end user needs to select a specific cable to fit the particular combination of devices.

List prices for single cables range from \$13 for a three-foot DB25 male to DB25 male cable, up to \$146 for 32.8 feet of 68-pin VHDCI to 68-pin VHDCI LVD cable.

## Do I really need this?

Is there a test for installed cables to find out if it is up to spec?

In my case, the only way to find out is if the serious error messages start appearing after intermittent failures.

For Konsdorf, the challenge is getting customers to avoid a "penny-wise, pound foolish" approach to cables.

"Customers think they are saving money. There is a great difference in cost between some of these cables," said Konsdorf. "If I can get this cable for \$20, why would I want to spend \$30 for the same thing? But that overlooks the total cost of ownership and frustration down the road.

"I think it's odd that people will spend the money to buy a top-line host adaptor and a top-line peripheral, then skimp on the cable. It's like putting cheap gas in a Ferrari."

*Carl Lindemann is a frequent contributing writer to Radio World.*

**It's odd that people will spend the money to buy a top-line host adapter and a top-line peripheral, then skimp on the cable. It's like putting cheap gas in a Ferrari.**

— Joan Konsdorf

improve our product so that customers don't experience support issues," said Konsdorf. "We discovered that a large percentage of the problems coming in were from poor-quality cables.

"It just made sense for us to get into the cable business and come out with a quality cable. This gives the customer a better experience and reduces my support cost."

Using Adaptec's cables with its prod-

For consumers, the difference between cables is hard to tell in a catalog or even in person. The price tag does not necessarily mean quality or lack thereof.

The Adaptec range of SCSI connectors is available at [www.adaptecstore.com](http://www.adaptecstore.com) and at other Web-based retailers along with many large retail computer and electronics emporiums.

The reason for *not* bundling the cables

# ASI

► Continued from page 47  
Contact information is on the home page. Although I did not try to access the customer support system, I suspect it will reflect the attention that went into putting the site together.

For those who habitually misplace operating handbooks as I do, the company has also thoughtfully included Adobe versions on its Web site for downloading.

## Staying digital

As the radio industry contemplates the transmission of digital audio, the requirements for audio will be to stay in the digital realm from mic to the speaker cone.

**Product Capsule:**  
**AudioScience ASI4215 Sound Card**

**Thumbs Up**  
 ✓ Multiple record/playback streams  
 ✓ Independently variable sample rates

**Thumbs Down**  
 ✓ Digital I/Os shared

For more information contact the company in Delaware at (302) 324-5333 or visit the Web site at [www.audioscience.com](http://www.audioscience.com)

The AudioScience card provides AES3 and S/PDIF ports, making direct recording from a CD cut to the hard drive a snap. These features will come in handy, as one of the red flags mentioned with the transition to IBOC is repeated A/D-D/A compression in the audio chain.

A downside is that these inputs and outputs are shared and are only hardware-switchable. Most users should not find this a problem, as the type of digital interface typically is set when installing the card.

**The card can play back four streams of 44.1 kHz/16-bit sound while recording a fifth stream.**

PCs in the broadcast industry have enjoyed steady growth in both numbers and in areas of use. From rather humble beginnings as data processors for trafficking and billing, PCs have achieved full potential as digital storage and playback devices for audio.

This transition would not have been possible without peripherals such as the AudioScience ASI4215 sound card that turns a standard PC into a multitrack digital audio record/playback source without peer.

*Jim Withers is VP of engineering at Pacific Broadcasting. Reach him at (314) 345-1030 or via e-mail at [jim@koplar.com](mailto:jim@koplar.com)*

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**Statement of Ownership, Management, and Circulation**  
(Required by 39 U.S.C. 3685)

1. Publication Title <b>Radio World</b>	2. Publication No. 0 2 7 4 - 8 5 4 1	3. Filing Date October 31, 2000
4. Issue Frequency Bi-weekly	5. No. of Issues Published Annually 26	6. Annual Subscription Price \$59.00
7. Complete Mailing Address of Known Office of Publication (Street, City, County, State, and ZIP+4) (Not Printer)		
5827 Columbia Pike, Falls Church, VA 22041		
8. Complete Mailing Address of Headquarters or General Business Office of Publisher (Not Printer)		
5827 Columbia Pike, Falls Church, VA 22041		
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor (Do Not Leave Blank)		
Publisher (Name and Complete Mailing Address) Carmel King 5827 Columbia Pike, Falls Church, VA 22041		
Editor (Name and Complete Mailing Address) Paul McLane 5827 Columbia Pike, Falls Church, VA 22041		
Managing Editor (Name and Complete Mailing Address) Sharon Rae Pettigrew 5827 Columbia Pike, Falls Church, VA 22041		
10. Owner (If owned by a corporation, its name and address must be stated and also immediately thereafter the names and addresses of stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address as well as that of each individual must be given. If the publication is published by a nonprofit organization, its name and address must be stated.) (Do Not Leave Blank.)		
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11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check here.		
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<input type="checkbox"/> Has Not Changed During Preceding 12 Months		
<input type="checkbox"/> Has Changed During Preceding 12 Months (If changed, publisher must submit explanation of change with this statement)		

13. Publication Name <b>Radio World</b>	14. Issue Date for Circulation Data Below Oct. 25, 2000	
15. Extent and Nature of Circulation	Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies of Single Issue Published Nearest to Filing Date
a. Total No. Copies (Net Press Run)	24448	15015
b. Paid and/or Requested Circulation (1) Sales Through Dealers and Carriers, Street Vendors, and Counter Sales (Not Mailed)	0	0
(2) Paid or Requested Mail Subscriptions (Include Advertisers' Proof Copies/Exchange Copies)	22839	14827
c. Total Paid and/or Requested Circulation (Sum of 15b(1) and 15b(2))	22839	14827
d. Free Distribution by Mail (Samples, Complimentary, and Other Free)	1032	0
e. Free Distribution Outside the Mail (Carriers or Other Means)	339	52
f. Total Free Distribution (Sum of 15d and 15e)	1371	52
g. Total Distribution (Sum of 15c and 15f)	24210	14879
h. Copies Not Distributed (1) Office Use, Leftovers, Spoiled	238	136
(2) Return from News Agents	0	0
i. Total (Sum of 15g, 15h(1), and 15h(2))	24448	15015
Percent Paid and/or Requested Circulation (15c / 15g x 100)	94.14	99.65
16. This Statement of Ownership will be printed in the <u>NOV 22 00</u> issue of this publication <input type="checkbox"/> Check box if not required to publish.		
17. Signature and Title of Editor, Publisher, Business Manager, or Owner		
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LINE OUT

# Step Up to the Plate With PZMs

**Bruce Bartlett**

Ever wondered what those funny-looking "plate" microphones are and how they are used?

find out.

Suppose you are picking up a sound source with a mic placed close to a hard, sound-reflecting surface. Situations where this might occur include picking

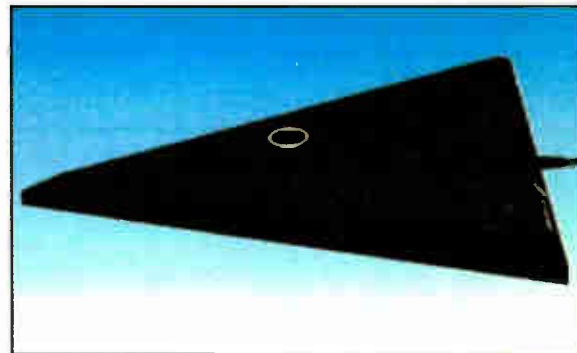
the mic from two paths — directly from the sound source and reflected off the nearby surface. Because the reflected sound travels a longer path than the direct sound, the reflected sound is delayed relative to the direct sound (Fig. 1, left).

The direct and delayed sounds combine at the mic, causing phase cancellation at various frequencies. The result is a series of peaks and dips in the frequency response called a comb-filter effect. It yields a filtered, colored tone quality.

phase cancellations for more natural sound reproduction (see Fig. 1, page 57).

**Additional benefit**

Furthermore, the coherent addition of direct and reflected sound boosts the sen-



The Neumann GFM 132 boundary layer mic



Crown's SASS-P Mk II stereo PZM mic

They are boundary or "pressure zone" microphones (PZM) designed for mounting on surfaces such as a floor, wall, table, piano lid, baffle or panel.

You might wonder how a microphone can sound good on the floor. Read on to

up live stage sound with the mics near the floor, recording an interview with the mic on a desk stand near a table top or recording a piano with the mic near the open lid.

In these situations, sound waves reach

However, on a boundary microphone, the mic capsule is a few thousandths of an inch from the surface. Direct and reflected waves travel virtually the same distance to the mic capsule, so they are in phase at all frequencies. This eliminates

sensitivity 6 dB, and therefore increases the signal-to-noise ratio 6 dB, which improves clarity and "reach."

Another benefit of the boundary microphone is that it has no off-axis coloration;

See PZM MICS, page 57 ▶


**When taped to the walls or ceiling near an audience, boundary mics provide realistic pickup of audience reaction.**

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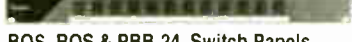
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# Reviving Sweepers: Radio a Go-Go

**Ken R.**

I have archived more than 5,000 PAMS jingle packages that were rescued from the edge of oblivion. I wrote about this in the Oct. 11 issue of *RW*.

These were the original tapes or backup copies produced for hundreds of radio stations around the world between 1958 and 1977.

The original master multitrack tapes, which I purchased in 1980 after the demise of PAMS, provide an interesting angle to this story.

First, a primer about how the jingles were recorded.

The instrumental tracks were recorded and, in the earlier days, mixed first; the singers listened to those tracks and added several layers of vocals.

Then the tape is mixed, meaning that the instruments and vocals are combined, adding reverb, compression and sometimes other effects. This is how jingles were created in 1958 and it is done in this same manner today.

## Syndication

This scheme allows the jingle company to "syndicate" the same tracks to multiple markets by changing the vocals without re-recording the instruments.

Also, recording is easier when the engineer does not have to mix 25 instruments plus a five- or seven-voice vocal group at the same time. While this description is an oversimplification of the process, technology has not altered this routine.

In the 1950s, PAMS recorded the instruments in mono or stereo to 1/4-inch tape. The entire band would set up in one room at one time and play simultaneously.

By 1960, tracks were recorded in stereo, with the rhythm instruments on the left track, such as the drums, bass, guitar and piano, and everything else on the right track, like strings, brass, orchestra bells, etc. This gave the engineer some flexibility in mixing.

In 1962, the first multitrack machines came into use. PAMS recorded many series on 1/2-inch machines at either 15 or 30 inches per second, no noise reduction, in a three- or four-track format.

These machines allowed the studio to record some of the solo or specialty instruments after the main band was through, a process called "overdubbing." An example of an overdub might be a sparkle effect, a harmonica solo or a sped-up xylophone, which is difficult to record while the band is playing.

Around 1968, a 10-track machine was introduced; a 16-track machine came along in 1971. Overdubbing became more common after "Sgt. Pepper," as recording became more sophisticated.

I wanted to use my studio to re-sing some of the classic PAMS music tracks from the 1960s and 1970s for contemporary oldies stations. After obtaining proper legal clearance, I began to assemble a vocal group that could recreate the PAMS sound.

I decided to mix the instrumentals from the multitrack masters to a more workable two-track format for several reasons.

For one, PAMS instrumentals were complex and each instrument needed its own EQ settings, levels and effects. Creating this mix was a tremendous amount of work. To redo this mix every time a cut was sung would be impractical.

Also, I did not want to record onto the original tapes; they were old and brittle. The wear from constant rewinding and recording would have destroyed them. And I knew that stations would want to purchase cuts from different series and it would be a waste of time constantly rewinding and reloading tapes.

The DAT format was used for these mixes; it had the best available quality in the late 1980s when I undertook this effort. CD recording was not yet affordable; analog tape would have added noise.

I tackled the one-inch tapes from a weird 10-track machine first, because I owned a Tascam MS-16 one-inch 16-track. The PAMS tapes played fine, with audio on tracks 1 and 2, nothing on 3, audio on 4 and 5, nothing on 6, on down the line.



Ken inspects a reel of tape

The board I used was a Tascam M3700-32 32-channel automated desk. I did not use any compression or reverb on these transfers so that I could add these during the mix.

In the early days, the monitor speakers were a pair of JBL 4411s mounted on the wall. I soon discovered I could get a more detailed and accurate balance using Tannoy PBM 6.5 II nearfield monitors.

In some cases, I made simple two-track mixes without reverb, meaning the rhythm was panned to the left and the other instruments to the right. In other cases, I made a more realistic stereo mix with rhythm usually in the center and other instruments panned naturally between the speakers.

On the panned stereo mixes, I used an Alesis Quadraverb very gently on brass and strings. It is easy to ruin a mix with too much reverb, so I used it conservatively.

In many cases, the PAMS master tapes had the appropriate effects printed to tape, which made it easy to make the transfers sound like the originals.

The tapes were in pretty good condition, but a few recorded in the 1970s had to be baked before they could be played. Several of these were originally recorded for WGAR(AM) and WLS(AM).

Each of the heavy multitrack boxes included a cut or track sheet that indicated which instruments were on which tracks of the tape. In most cases they were accurate, if rather casual.

A typical cut sheet for a WLS jingle circa 1970 is:

Track 1: bass  
Track 2: drums  
Track 3: guitar  
Track 4: piano  
Track 5: brass  
Track 6: french horn (overdubbed)  
Track 7: additional percussion (xylophone,

congas or shakers, also overdubbed)  
Tracks 8 through 10: vocals

It was educational to figure out how these famous jingles were put together. I often found myself saying "ah-ha" as I discovered arranging and recording tricks.

## Secrets revealed

While the biggest secret was good writing and playing, an examination of the tapes revealed a lot of hidden detail.

In the early 1970s, a "slap back" echo was used on the brass to provide depth.

Flanging was also used as a prehistoric effect. When a mono source is recorded onto two different tracks, then panned to mono, a phasing effect is created as the audio goes in and out of sync. If one holds a finger on the flange or metal edge of a



More shelves filled with PAMS master tapes

recognize that sound in Series 42. It was also used on brass in a BBC custom package in 1972.

A rotary Leslie speaker from a Hammond was employed on voices on certain cuts. Uncommon instruments such as sitar, boom bams (percussion) and zither were played. Backward guitar and brass were also heard on several cuts.

PAMS producers tried many techniques to make the jingles stand out on the radio.

I recall a discussion with a former PAMS singer who told me that owner Bill Meeks once asked the group to sing into paper cups against a pane of glass to find out how it would sound. I never heard the results of that trick.

My effort to recreate the PAMS sound was successful. Before I closed my studio in April of this year, thousands of PAMS cuts were sung for hundreds of clients in 11 countries. My Web page [www.kenr.com](http://www.kenr.com) has many examples.

PAMS re-sings are now recorded at JAM Creative Productions, now owner of the PAMS franchise. For the full story of PAMS and details on current ownership, visit [www.pams.com/pams/recent.html](http://www.pams.com/pams/recent.html)

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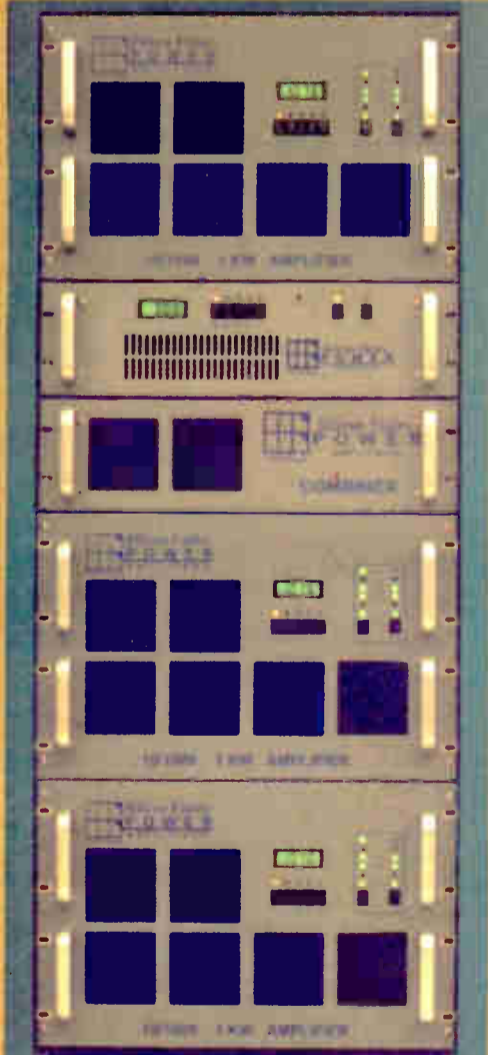
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# Iceberg Revamps Studios for Web

**James Careless**

When most people think of Internet-only radio stations, the common perception is of a bare-bones basement operation that is a radio station only in name.

However, the five Web streaming stations operated by Toronto-based Iceberg Media.com Inc., found on the Web at [www.theiceberg.com](http://www.theiceberg.com), have much more sophisticated studios.

In fact, not only does Iceberg use well-equipped broadcasting facilities — if the Internet links were replaced with transmitters, the stations could go straight to air — but its five stations operate out of a true studio broadcasting center.

## New premises

Until recently, the six-story building in downtown Toronto housed country radio station CISS-FM.

When that station moved to new premises last summer, “this floor in the building was completely empty except the walls for the radio studios,” said David Marsden, Iceberg Media.com vice president of entertainment. “This appealed to me, because having to build your own studio space can be both expensive and time consuming.”

However, Marsden and company did not move into the space and replicate the CISS-FM operations. Instead, they used this opportunity to create a new kind of broadcast space, one that combines the best of traditional radio production with new technology and the attitude of the [iceberg.com](http://iceberg.com).

The attitude is what sets Iceberg apart. Webcasting is not old-fashioned radio by other means; instead, Marsden said, Iceberg is a new form of radio uniquely adapted to the possibilities offered by the World Wide Web.

Think of the formats as alternatives that no on-air program director could ever get past management.

For instance, [www.2kool4radio.com](http://www.2kool4radio.com) delivers eclectic, edgy and alternative music unavailable on the airwaves.

Meanwhile, [www.1groove.com](http://www.1groove.com) offers a DJ-driven club mix, one available in dance clubs and raves around the world, but not on AM or FM.

Next is [www.primeticket.net](http://www.primeticket.net), an around-the-clock “digital concert hall” featuring performances from the company’s own studios and clubs across Canada.

Another aspect that sets Iceberg apart is the technology.

The company does not have a problem using mixing boards, CD players and any other piece of traditional radio technology that helps the 47 presenters do their jobs. However, the station also uses turntables heavily, which are not as easy to find in these post-vinyl days, but are a must-have for staff who “like to mess around with their music,” Marsden said.

Nowhere is this fusion of old and new technology more apparent than in the [1groove.com](http://1groove.com) on-air studio.

Instead of a standard windowless control room, the [1groove.com](http://1groove.com) studio is essentially a dance-club DJ booth, but

instead of windows looking down on a rave, it overlooks downtown Toronto.

It features the accoutrements needed for live club mixing, including turntables and other variable-speed playback units, including CD players that can be synchronized on the fly.

On the other hand, [PrimeTypeicket.net](http://PrimeTypeicket.net) is programmed from a large room ini-

endorse the opportunity for music to be ripped off, but we sure get behind the idea of letting people hear music they probably will not hear on any other media. This is the music people are buying, but that old-fashioned radio chooses to ignore.”

Iceberg is a different form of radio than most are used to. But David Marsden is comfortable doing something



Turntables are an important part of the [1groove.com](http://1groove.com) studio

tially designed for live country-music broadcasts.

“Live broadcasts were a condition of the CISS-FM license,” Marsden said.

Now, instead of bluegrass, cutting-edge bands play live in this room to a select audience of contest winners and to listeners through the Internet.

different. In past years, Marsden brought life to FM radio in Toronto through his performances on CHUM-FM and then in founding CFNY-FM.



Jordan de Virj shows off the studio routing system

That is why he laughs off critics who wonder why he is putting so much effort into producing original, quality Internet radio programming. Marsden said his critics are saying the same things that were said about his first forays into FM.

David Marsden is not too concerned about the challenges of running five stations out of one space. Instead, he is looking towards the future when [theiceberg.com](http://theiceberg.com) “doubles the number of channels we are putting out now.”

Got a radio studio facility story to tell? Pass the word. Write to us at [bcox@imaspub.com](mailto:bcox@imaspub.com)



The main [Iceberg.com](http://Iceberg.com) studio

Anyone in the world can also watch these broadcasts, because [PrimeTypeicket.net](http://PrimeTypeicket.net) shoots the concerts with digital video cameras and then streams the video on the Web alongside the audio.

Recent concerts include Billy Bragg, the du Maurier Downtown Jazz Festival, Punkorama 2000, Joe Strummer, Maceo Parker, Fat Boy Slim and the Afro-Celt Sound System.

Beyond its on-air studios, Iceberg also has a 16-track digital production room; a download center for dubbing material from vinyl, MiniDisc, cassette, CD or any other media; and a large room for informal interviews complete with a comfy leather couch.

High-end recording equipment and lots of servers with huge hard drives back the entire operation. This is so that Iceberg can record all broadcasts for Web surfers to access the programs on demand.

Marsden is not a fan of piracy, which is why [theiceberg.com](http://theiceberg.com) only offers streamed content.

“We protect the music and the artists completely by not making our music downloadable except as a listening experience,” Marsden said. “We cannot

## Then and Now

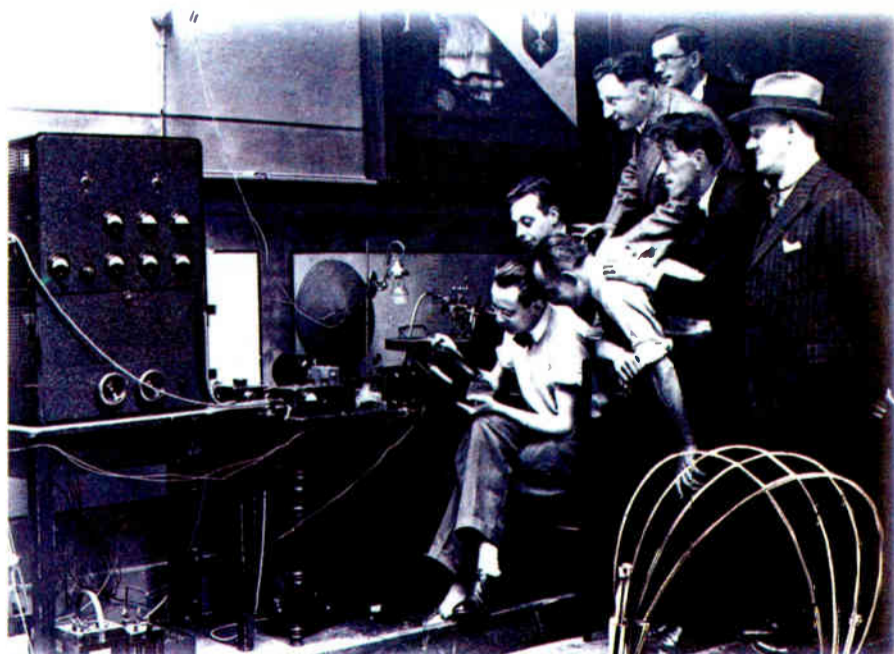
Here’s a photo that landed in our In Box earlier this year while *RW* was preparing a story about beyerdynamic. We liked it enough to want to share it with you.

The manufacturer used this picture as part of a promotional campaign. It compared beyer’s past — represented by stereo DT48 headphones, which began production in 1937 — and the present, featuring the new MCD-100 digital microphone.

Beyer wanted to show that its approach to building high-quality audio products has not changed.

“This picture represents the enthusiasm of maintaining this policy in the past. It is still the philosophy now and will be our mission for the future,” said Bob Lowig, regional sales manager at beyerdynamic.

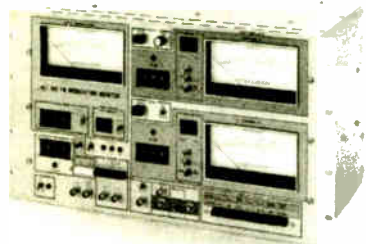
The picture shows founder Eugen Beyer and associates viewing a record cut on their own lathe that would be used as playback material to test the headphones.



Share your interesting radio and technology pix with us. Contact Bernie Cox at (703) 998-7600 x183 or via e-mail to [bcox@imaspub.com](mailto:bcox@imaspub.com)

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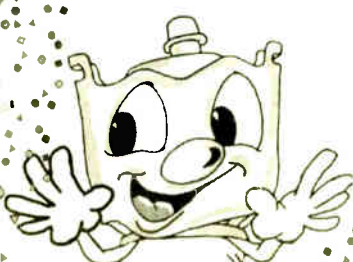
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# PZM Mics

► Continued from page 51  
the frequency response is the same anywhere around the mic.

"Off-axis" means not in front of the mic. All stick-type omnidirectional mics roll off the high-frequency response off-axis, but not boundary mics. Everyone seated around a boundary mic is picked up with equal fidelity.

## Inventors

Invented in 1978 by Ed Long and Ron Wickersham, the PZM was the first boundary microphone with a full-range frequency response. Ken Wahrenbrock built the first prototypes; my employer Crown International took over production in 1979.

Each of the PZM mics from Crown includes a miniature electret condenser capsule mounted face down next to a sound-reflecting plate or boundary (Fig. 2). The polar pattern is omnidirectional, or more correctly, hemispherical. Note that the plate is not a pickup; it does not pick up mechanical vibrations, it serves as a

predictable hard surface to reflect sound into the mic capsule.

Another type of omnidirectional design uses a flush-mounted mic capsule aiming up in a shallow housing. An

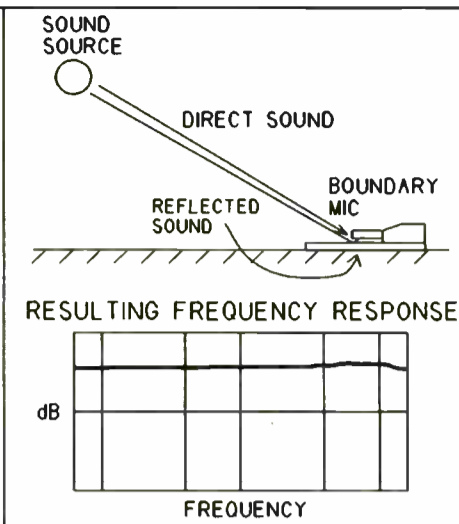
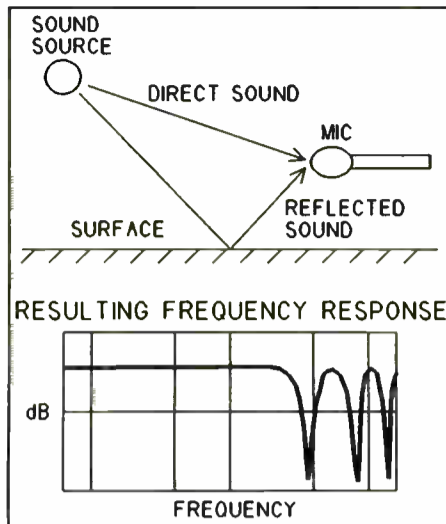


Fig. 1

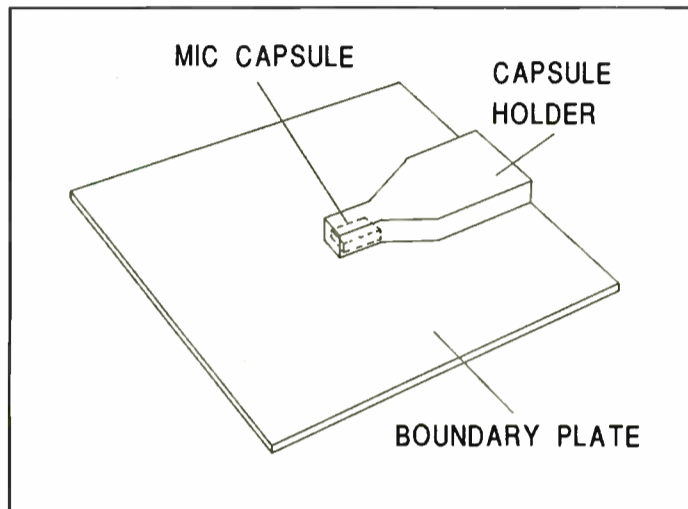


Fig. 2

example is the Neumann GFM 132.

Boundary mics are also available with a unidirectional polar pattern. They have the benefits of improved gain before feedback and better rejection of room

acoustics and background noise. Some examples are the beyerdynamic MPC 65, Crown PCC-160, Audio-Technica AT871R and ATM87R, and the Shure SM91.

There are miniature versions of directional boundary mics; some are only one inch in diameter. Examples include the Crown MB series and the beyerdynamic MPC 22.

An omni boundary mic can be placed in the center of a table to pick up a group discussion. The convenience is obvious as there is only one mic to connect. Yet it sounds as if eight cardioid mics are spread around the table.

The sound can be made clearer or less hollow by adding acoustic absorption such as carpeting, acoustic-tile ceiling, drapes and panels of muslin-covered fiberglass insulation to the room surfaces.

Boundary microphones can be taped to the underside of a piano lid. According to many users, the sound quality is excellent.

When taped to the walls or ceiling near an audience, boundary mics provide realistic pickup of audience reaction.

A boundary mic can be attached to a two foot by two foot clear Plexiglas panel ("boundary") and suspended over an orchestra or choir.

A stereo arrangement with excellent imaging can be made using two sheets of clear Plexiglas, each two-feet by two-feet. These are mounted with one edge touching to form a "V" with a 60-degree angle between the panels. A boundary mic is placed 6.7 inches from the front edge of each panel. This array is suspended above and in front of a musical ensemble with the point of the V aiming at the ensemble.

If the wedge stereo array is too unwieldy, consider the Crown SASS-P Mk II, a stereo boundary mic. It can be handheld for ENG work in the field or stand-mounted for recording classical music or sound effects.

Unidirectional boundary mics are well suited for stage-floor pickup of drama or musicals. Shure notes that its SM91 can even be used in a kick drum.

For users who want to understand boundary theory and create boundary arrays for PZMs, Crown International offers a free pamphlet called the "Crown Boundary Microphone Application Guide," available by calling the company in Indiana at (800) 342-6939.

Bruce Bartlett is a microphone engineer and the author of "On-Location Recording Techniques" published by Focal Press

Reach him in c/o RW.

# ARP

► Continued from page 48  
allows simultaneous play of several soundfiles under the Windows environment. All the software author needs to do is write a skin that lies on top of DirectSound and presto, Instant Radio Automation.

Lots of folks latched onto WinAmp once they found out it could do seamless segues. Many swear by programs such as OTSJukeBox, Virtual DJ, DRS2000 and others.

In the near future, I will publish an article about the types of budget automation programs one can find on the Internet. Almost all are intended for Webcast applications, where the most desirable features may consist of little more than uninterrupted playback and power failure recovery.

## Cheaper replacements

Frankly, few of these products can do what commercial products can: integrate with billing and traffic, offer grab-and-go song replacement and work as a suite with other machines around the plant. That is why the radio-specific systems cost what they do, work a lot more dependably and are supported.

Still, there are two products I've noddled with for unattended operation and I'm split down the middle on them.

WebJockey, from a small company called IIGYS, is the silver-skinned, three-decker player seen in the artwork of this story. It plays back WAVs and MP3s (what *doesn't* anymore?), has an on-board mixer that works the soundcard outputs, and has a 36-button "whoopie box" for instant playback of bells, quacks, jingles or whatever is desired. It's stable and it has given me uninterrupted 24-hour audio playback for better than 10 days before a computer restart was needed.

It comes with a built-in random playlist generator, and as I understand it, an actual music scheduler is due out soon. When I obtained it, WebJockey was about \$99. It is probably about \$150 by now.

## Automation in Italian

Programmer Antonio Cristiani wrote WinJay in Italy. The black-and-green screenshot shows a five-slot queue, nice large clock numbers and plenty of song information. Using two dirt-cheap soundcards, WinJay can play program audio through one card while allowing a source to be cued up through the second.

WinJay can also do playlist generation, but only by genre. Incorporating data such as tempo, key, intensity, etc., has not been incorporated into the software, although the company may add those in the future. The WinJay whoopie box can be fired from the screen or the F1 through F12 keys. There is a "Tell Time" feature in WinJay, but at the moment it says the time only in Italian.

The downside of WinJay is the cost, ranging close to \$1,000. You can see why I am up in the air about picking a program.

Hopefully, all will be ironed out soon. My signal will be clean and not clamp down anyone's Net connection, all my e-mail writers will be happy, I pick the automation program I want and all will be right with the world.

I still wonder how I'll handle that first snow day.

## PRODUCT GUIDE

### Audion Updates VoxPro

Audion Laboratories released VoxPro 2.0 for the iMac, G3 and G4 Macintosh computers. The audio editor is designed for quick phone editing in control rooms and newsrooms.

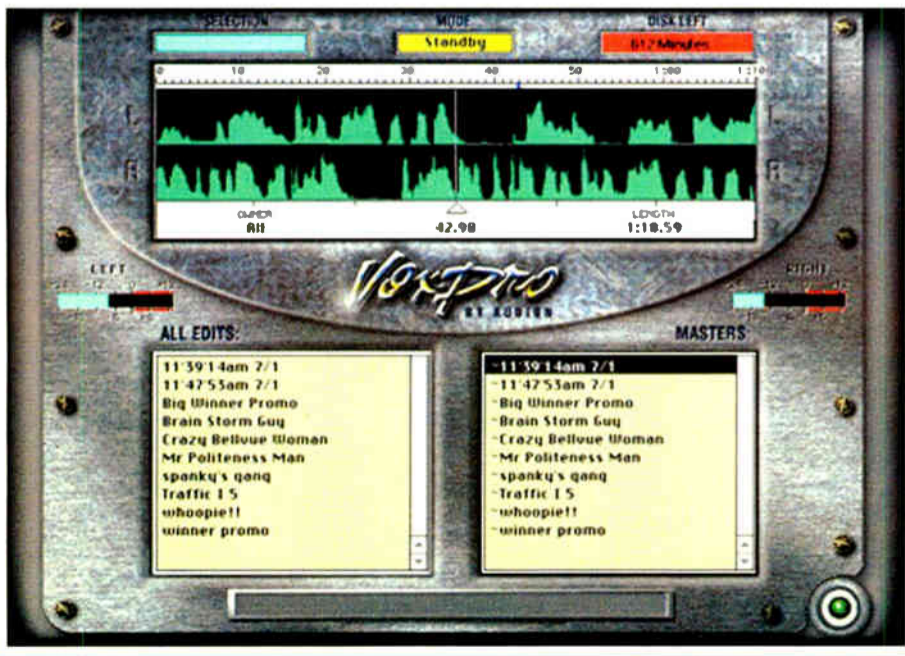
The package includes software, control panel, ADB/USB adapter cable, PDF manual and an eight-page "easy-install" manual for \$2,495 list.

The system is sold without a computer, but the base price for an iMac recently dropped to \$799. New iMacs come standard with 7 GB standard. The hard drive holds 10-1/2 hours of stereo or 21 hours of mono audio.

The updated VoxPro control panel has 10 hot keys and keys for record, edit save and playback audio functions. The system does not require a soundcard or dongle.

The screen interface also sports a new look with enlarged edit and master list windows, digital VU meters and blinking record light, but has the same wave form area.

For more information contact Audion Laboratories in Washington State at (206) 842-5202 or check out [www.voxpro.net](http://www.voxpro.net)



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Crown stereo power line one amp, \$275. John Price, 214-321-6576.

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Cablewave CP-1000-3 3-bay circular FM antenna tuned to 106.7 MHz, gd cond, \$500. Bill Barry, WAMB, 1617 Lebanon Rd, Nashville TN 37210. 615-889-1960.

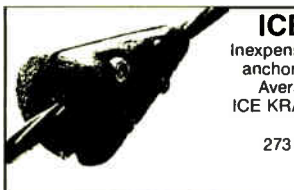
Phelps Dodge LP-3 low power 3 bay circ pol antenna, \$2500. Ken Diebel, KHMB, 414 Ineichen St, Rayville LA 71269. 318-728-2370.

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Andrew 1-5/8" Air Dielectric, 200', \$750. Ken Diebel, KHMB, 414 Ineichen St, Rayville LA 71269. 318-728-2370.

Andrew 1-5/8" foam dielectric 200'+, \$900. Ken Diebel, KHMB, 414 Ineichen St, Rayville LA 71269. 318-728-2370.

**Presonus ACP22 stereo compressor/limiter/gate**, new, \$295; Auditorics stereo sliders, new model 340-560 plus extender boards 110EX6-2-A & 110-EX9-2-A. John Price, 214-321-6576.

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**Fidelipac On-Air lights**, BO; CRL PMC 300 peak mod controller, APP 300 audio preparation processor, BO; Radio Systems TM611, BO. Cliff Bryson, 93 Robinhood Dr, Cranberry Twp, PA 16066. 724-776-5204.

**Want to Buy**

Operator & service manual for chip, burner model storey system P-240, MCI, processor board PCA 2500-0611. John Price, 214-321-6576.

Yamaha BP-2 bass generator & pedals schematic/literature. Would prefer electronics, but schematic essential. Bob Meuse, Muse Audio Arts, 191 E El Camino Real #209, Mtn View CA 94040. 650-969-2433.

**AUTOMATION EQUIPMENT**

**Want to Sell**

Scott Studio AXS on-air workstation & prod workstation w/cards, monitor, etc. Units have never been used & are still in the box, call for details. Bob Kenning, WBYT, 237 Edison #200, Mishawaka IN 46545. 219-258-5483.

Arrakis Digilink II on-air system w/(2) 7-channel audio switches, CD controller & trakstar workstation, BO. Tim Zeimann, KTAA, RR6, Box 6000, Big Sandy TX 75755. 903-636-2000.

Scott Studio system, never used, still inboxes, call for details & prices. Mr. Cobb, WLRX, POB 370, Nappanee IN 46550. 219-773-7989.

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Arrakis 2000SC 12 channel console, BO. Clay Freinwald, Entercom, 1820 Eastlake Ave N, Seattle WA 98102. 206-726-7071.

Howe Series 9000 12 channel console, BO. Clay Freinwald, Entercom, 1820 Eastlake Ave N, Seattle WA 98102. 206-726-7071.

Ramko Research DC-8M 8 rotary pot board, works very well, gd overall cond w/manuals, \$550/BO. Jim Canwell, Canwell Productions, 1629 W Cleveland, Spokane WA 99205. 509-324-0575.

Tangent 3216, gd cond, BO. Ray Murphy, Ray Murphy Creative, 4607 City Park Rd, Austin TX 78730. 512-349-2231.

Harris Executive 10 pot rotary 10 channel w/expandable capabilities, power supply & audio amps, gd cond, \$350. Joe Garcia, WGNO, 265 Union Blvd, St Louis MO 63108. 314-454-6660.

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Collins 26U-2, or parts for same. Mark Schackow, Mark Schackow Recording, 307 4th Ave East, Lemmon SD 57638. 605-374-3424.

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Telex xmtr & mic WT-50, \$125; Telex xmtr & mic WT-200, \$125. John Price, 214-321-6576.

Neumann U87 (2) w/shock mount & phantom power, \$1650 ea; RCA 99 (3), classic ribbon mics, \$1750 ea. Roger Rhodes, POB 1550, New York NY 10101. 212-245-5045.

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Will work for food! Recent ABS grad seeking position from you! Relocation desired, talented, professional, all of the above!, check it out. Kris, 405-258-5883.

Attention PD's in the radio world, broadcasting school graduate looking for work. Wet in the industry, production & on-air personality talent, willing to travel. Chris, 405-459-6318.

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## ACTION-GRAM

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Radio World's Broadcast Equipment Exchange provides a FREE listing service for radio stations only. All other end users will be charged. This FREE service does not apply to Employment Help Wanted ads or Stations For Sale ads. These are published on a paid basis only. Send your listings to us by filling out the form below. Please be aware that it takes one month for listings to appear. The listings run for two consecutive issues and must be resubmitted in order to run again. Thank you.

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 Yes  No

Signature \_\_\_\_\_ Date \_\_\_\_\_

Contact Name \_\_\_\_\_

Title \_\_\_\_\_

Company/Station \_\_\_\_\_

Address \_\_\_\_\_

City/State \_\_\_\_\_

Zip Code \_\_\_\_\_

Telephone \_\_\_\_\_

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Make: \_\_\_\_\_ Model: \_\_\_\_\_

Brief Description: \_\_\_\_\_

Price: \_\_\_\_\_

WTS  WTB  Category: \_\_\_\_\_

Make: \_\_\_\_\_ Model: \_\_\_\_\_

Brief Description: \_\_\_\_\_

Price: \_\_\_\_\_

\*Closing for listings is every other Friday for the next month's issue. All listings are run for 2 issues unless pressed for space or otherwise notified by listee.

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Classified Line Ad	\$2.00 per word			
Blind Box Ad	\$15 additional			
Station/Studio Services	\$175			

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31	Aphex Systems	www.aphex.com
30	Armstrong Transmitters	www.armstrongtx.com
32, 33	Arrakis Systems	www.arrakis-systems.com
24	ATI	www.atiguys.com
18	Audemat by Auditem	www.audemat.com
38	Audio Precision	www.audioprecision.com
64	Audioarts Engineering/Wheatstone	www.wheatstone.com
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12	Bext	www.bext.com
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18	Commercial Communication Assoc.	www.cca.ws
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56	Econco	www.econco.com
56	Excalibur Electronics	See ad for contact information
56	Freeland Products, Inc.	www.freeland-inc.com
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53	Inovonics	www.inovon.com
56	J Squared Technical Service	jsquared@cdsnet.net
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52	LBA Technology	www.lbagroup.com
18	LPB	www.lpbinc.com
54	Mager Systems	See ad for contact information
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## ◆ READER'S FORUM ◆

### Spread spectrum, DAB solution

Dear RW,  
Many thanks to Bob Rusk for a wonderful article in the Sept. 13 issue of *Radio World* about spread-spectrum radio, and its co-inventor Hedy Lamarr ("Lamarr Had Looks and a Great Idea").

This should remind us about the marvelous history of radio and those who had a great contribution. Many times the lessons of history are forgotten. Let us learn from them.

Just 12 years ago, the thought of a practical, civilian use of spread-spectrum radio was ridiculous and expensive; it was for the industrial elite.

Just five years ago, the thought of a practical, consumer spread-spectrum cordless phone was ridiculous.

Recently I bought one of the 900 MHz spread-spectrum phones for my home. This tiny marvel works more than a city block from my house for well under \$100, and the audio is great. This ridiculous piece of technology has made my week easier and better.

Now let's take this ridiculous idea a little further. Industrial users of this technology use it for spectrum efficiency and its ability to allow dozens of transmitters to peacefully coexist (not to mention license-free).

In theory, 20 MHz of bandwidth in the 902-928 MHz ISM band easily supports hundreds of simultaneous transmissions. Hmm, 20 MHz. See where I'm going with this?

Want to come up with a DAB solution? The answer may already be right here in front of us. This can't be more complex than today's radio environment and the impact and confusion that all of the various DAB options will soon have on the consumer. Just look at the wireless phone industry. Confused?

So, let's just totally scrap analog FM and force everyone to buy a new spread-spectrum receiver. The LPFM debate would go away because everyone in a city who wants a station could have one. Ownership limits would disappear; who would care? Protected contours, complex station classes, negotiated interference agreements, non-commercial educational licenses — all gone.

Ridiculous? Wait a few years.

*Glenn Finney  
Engineer*

*Good News Network  
Macon, Ga.*

### SESAC: Renegade agency?

Dear RW,  
S.P. Richey's letter (RW, Sept. 1 *Reader's Forum*) about his problems with SESAC mirrors the problems many of us are having with this renegade agency.

Although they account for less than 5 percent of the music played on most stations, they want fees equivalent to the "big boys" (ASCAP and BMI). And their fee schedule is non-negotiable. Their attitude is "this is what the rate is and we're not changing it for anybody."

Their whopping annual fee increases, which are written into the contract, are not tied to anything specific, i.e. inflation, cost of living, etc. They're just arbitrary increases because SESAC wants more money. I've offered to sign a contract without the automatic increases, but they refused.

Perhaps I am obligated by the copyright law to have a contract to perform SESAC-licensed material, however there is nothing in the copyright law that says I have to agree to annual fee increases that are out of line with reality.

*Larry Fuss  
President, General Manager  
Delta Radio Inc.  
Cleveland, Miss.*

### WNYG: No place for misfits

Dear RW,  
I want to thank you for the story "Teens Provide Live-Assist at WNYG" (RW, Sept. 13).

WNYG(AM) in Babylon, N.Y., was my first radio station. It was an oldies format and I was only 16 when I joined the staff. Other radio stations would often look down at WNYG as a place where only misfits could work.

In a high-profile market, we were a low-profile radio station. We didn't have the best equipment, but we always had the talent to make up for it.

WNYG was sold in 1994. We all learned that we would be losing our jobs because the station would be switching to a Spanish format. We never got the chance to say goodbye, until this past spring.

From April 3 until June 14, under the supervision of Jim Pierce (the last program director before the station switched to the Spanish format) and assistant John Saley, many of the old staff, including myself, who weren't allowed to say goodbye in 1994 were invited back on the air to do some programs.

## Don't Give Up Web

On the surface, radio and the Internet still seem to be the best of friends. New Net-based broadcasters as well as established stations come online every week on sites such as Live365.com. Broadcast automation manufacturers offer studio control and voice tracking via the Internet, as well as interactive listening and viewing experiences for audiences. Displaced or relocated listeners maintain loyalty by tuning in their favorite out-of-market stations.

Meanwhile, it is hard to ignore the press reports of 2000 filled with accounts of dot-com businesses. Many closed up shop, went looking for new buyers or, failing that, filed for reorganization or bankruptcy. It's happening in our business, but it's not just broadcast-related ventures, by any means. Among the more visible victims of 2000 include Pets.com (the company with the TV spokes-puppet) and EnetRegistry.com, a company formed to offer and register domain names.

Internet radio, while offering choices not generally found in one's local market, still faces numerous hurdles. Many offices restrict listening on desktop terminals because it loads down the bandwidth needed to run the business. Net stations cannot be heard where there is no modem or cable connection (the most widely used quote on this matter has been "They haven't wired the beach yet").

The auction site eBay.com recently featured an established Internet radio station for sale with bids beginning at \$300,000, so evidently somebody is ready to put the Net experience behind them.

This should not mean abandoning the notion of putting your station up on the Net. If you are about to launch in 2001, see the plans through — but do so with an eye to the realities of the situation today, not as they were in 1998 when Net fever raged.

Some studies are revealing that perhaps Web-based advertising has not done the job it should have. If you are already online but the proposition is losing money, hire a salesperson skilled in cultivating non-traditional revenue sources. Find out what manufacturers and suppliers offer to broaden your Netcasting experience.

The dot-com shakeout is just beginning and it should concern you. But the Net isn't going away. Under your own roof, think and react sensibly. The New Year may bring changes at your station, but the battle for listeners will become even more competitive and your station needs every edge it has.

— RW

We even had a mini "radio reunion" party to say goodbye to the station we all put work into. All of this happened while the sale of the station (which was auctioned in January) was being approved.



After June 14, the station was under the control of Multicultural Broadcasting and General Manager Jack McCloy. I visited WNYG recently. The changes are quite amazing! Mr. McCloy and his staff should be very proud of what they have accomplished in such a short period of time.

Many wonder why the underpaid staff of an underpowered station would care so much? It was the friendships that were formed while working there.

It was that friendship that made it so easy for everyone to get back together for this final goodbye, and to put together a tribute Web site for WNYG at [www.angelfire.com/wy/wnyg](http://www.angelfire.com/wy/wnyg) which has lists of all the people who have graced the airwaves at 1440 AM, dating back to its inception as WBAB(AM).

WNYG was more than just "Good Time Oldies" — it was a good time!  
*Mike Erickson  
Contract/Consultant Engineer  
Wireless Media, Eastern Tower  
Long Island, N.Y.*

## Write to Us

RADIO WORLD  
READER'S FORUM

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## Radio World

Vol. 24, No. 25 December 6, 2000

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### NEXT ISSUE OF RADIO WORLD DECEMBER 20, 2000

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Radio World (ISSN: 0274-8541) is published bi-weekly by IMAS Publishing (USA), Inc., P.O. Box 1214, Falls Church, VA 22041. Phone: (703) 998-7600. Fax: (703) 998-2966. Periodicals postage rates are paid at Falls Church VA 22046 and additional mailing offices. POSTMASTER: Send address changes to Radio World, P.O. Box 1214, Falls Church VA 22041. REPRINTS: Reprints of all articles in this issue are available. Call or write Michelle Inderrieden, P.O. Box 1214, Falls Church, VA 22041; (703) 998-7600; Fax: (703) 998-2966. Copyright 2000 by IMAS Publishing (USA), Inc. All rights reserved.

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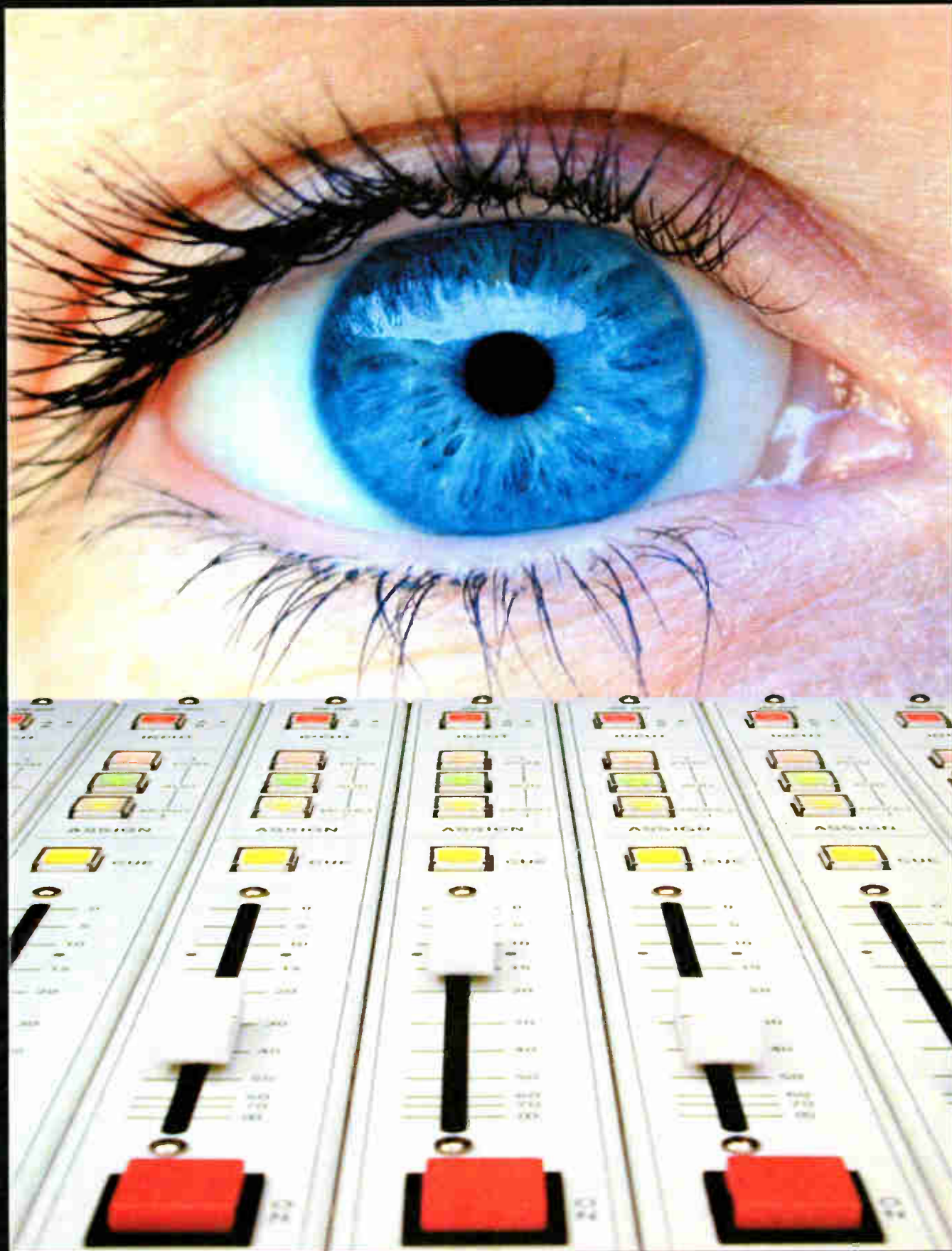
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