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**Flag Waiver?**

The DTV Broadcast Flag is under siege; the outcome could weigh on radio.

Page 24

**First-Name Basis**

NAB honors the engineer everyone knows as Smitty.

Page 3



April 27, 2005

# Radio World

\$2.50

The Newspaper for Radio Managers and Engineers

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**NEWS**

▼ John Garziglia sees a lesson in the FCC's refusal to mandate carriage of digital TV channels.

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▼ Americans are using more on-demand media.

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▼ Fred Baumgartner flies off on the bird kill debate.

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## FCC Analyzes Changes to EAS

by Randy J. Stine

**WASHINGTON** Sources familiar with public warning issues expect the FCC's overhaul of the Emergency Alert System to be completed in 2005. However, pinpointing exactly when the FCC will release the report and order is difficult, and much will depend on the new chairman's approach.

The commission's review of proposed changes to EAS rules released last August continues. It is based in

part on the recommendations of the Media Security and Reliability Council, an FCC advisory committee and the now-defunct Partnership for Public Warning.

A single federal entity should have oversight of EAS in this country, MSRC and PPW recommended.

The FCC also is trying to determine whether broadcaster participation in non-national alerts should be mandated.

Jim Daily, former director of the Office

See EAS, page 8 ►

## Conference Divvies Up Shortwave Bands

by James Careless

Shortwave radio fans can relax: The world's shortwave radio frequencies have been reallocated for summer and autumn 2005.

This massive task is undertaken twice a year by the all-volunteer High Frequency Co-ordination Conference, an informal international group of engineers representing about 40 countries that account for 75 percent to 80 percent of shortwave radio broadcasts.

The HFCC sets the frequency allocations with the authority of the International Telecommunications Union.

**Ionospheric reflection**

Such coordination and reallocation are needed because shortwave radio relies on ionospheric reflection to achieve international coverage. The ionosphere's characteristics change seasonally as the earth tilts on its axis as it rotates around the sun; so shortwave broadcasters must move

See SHOR:TWAVE, page 18 ►



### The Smallest PMD Marantz Gets Compact With a New CF Media Deck

Page 32

Photo By Bob Kovacs

## Together We Have The Power To Move Radio Forward.

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# ◆ NEWS WATCH ◆

## ContentDepot Deal Includes Metadata

**OTTAWA, Canada** International Datacasting said it has a \$2.2 million contract from NPR to add a streaming audio subsystem to NPR's ContentDepot distribution system.

A key enhancement is the ability to inject metadata, including PAD, into files and streams. Information can be used for more accurate programming and eventually for text displays in HD Radio, it said.

NPR manages the Public Radio Satellite System, which is converting its program distribution system. IDC earlier won a contract

to provide the file transfer infrastructure.

The new deal is valued at \$2.7 million Canadian dollars, roughly \$2.2 million U.S. IDC is headquartered in Ottawa.

## Viacom Explores Division

**NEW YORK** Viacom may try to divide and conquer.

The head of Viacom is talking to the board about possibly dividing its businesses into separate publicly traded companies. Viacom Chairman/CEO Sumner Redstone suggested the divisions might

help the businesses reach their monetary goals in a more tax-efficient way. The board has directed the company to explore the question, and the company expects to announce details in this quarter.

Redstone said Viacom could potentially separate high-growth divisions such as MTV into one business, for example, and group CBS Television with outdoor and radio into another business.

Viacom's divisions have different growth characteristics and attract different types of investors, according to Redstone, who said, "It's become clear that this important distinction is likely to continue to limit Viacom's ability to receive full value for its assets."

## Broadcast Issues Pending as New Chairman Settles In

**WASHINGTON** As Kevin Martin begins his new role as chairman of the FCC, several broadcast issues are pending at the commission, including finalizing rules for digital radio and deciding how to end the digital transition for TV. Other issues awaiting action include resolution of media ownership limits, caught in a holding pattern through court appeals, and complaints about broadcast indecency.

The 39-year-old Martin is a former White House aide who worked for the Bush campaign in 2000. Prior to joining the campaign, Martin was an advisor to FCC Commissioner Harold Furchtgott-Roth.

Republican Martin has been a commissioner since 2001 and did not require reconfirmation. His elevation and the departure of Michael Powell leave a Republican slot open, and that nominee will require Senate approval.

"I thank Chairman Powell for his excellent stewardship of this agency, and I look forward to continuing his efforts in bringing the communications industry into the 21st century," said Martin in a statement.

In a statement, NAB president/CEO Eddie Fritts said, "Kevin Martin is the right person at the right time to lead the FCC. Kevin has a passion for public service and a deep understanding and appreciation for the value of local broadcasting. We salute President Bush for this superb choice, and we look forward to working with Chairman Martin and his colleagues."

Commissioner Kathleen Abernathy, who has seen a staff migration lately, also was said to be planning to depart, which would open up yet another seat on the commission.

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## NEWS MAKER

# NAB Honors Milford Smith

by Leslie Stimson

Peers of Milford Smith admire his indefatigable dedication to making radio better. They cite his sense of humor and talk about his management skills that enable him to get people representing companies with different agendas to reach a consensus on technical matters concerning digital radio.

Colleagues contacted for this article described Smith as gifted, steadfast and dedicated, especially concerning his two decades of volunteer work for the standards-setting National Radio Systems Committee. Smith, 56, is co-chairman of its DAB Subcommittee. He also has been chairman of the NAB Digital Radio Committee and advisory committee to the NAB Radio Board.

Smith — widely known as Smitty — led the NRSC through creation of test plans and subsequent evaluation of the initial IBOC systems. He has played a similar role when group repeated the process after the remaining technology developers merged in 2000; through the codec switch in 2004; and now, in finalizing a digital radio standard.

Smith, the vice president of engineering at Greater Media Inc. for the past 21 years, is recipient of this year's NAB Radio Engineering Achievement Award. The honor is given to industry leaders for significant contributions that have advanced broadcast engineering.

## 'Rare breed'

Lynn Claudy, senior vice president of NAB Science and Technology, cites Smith's "leadership over the past decade" in his DAB Subcommittee role.

"Under his stewardship, numerous pivotal consensus decisions by the radio industry have been achieved on the evaluation, specification and steps toward standardization of a digital radio broadcasting system in the U.S.," Claudy said. "Milford's Herculean and tireless efforts on behalf of broadcasters to facilitate a digital future for radio made him the natural choice."

John Marino, vice president, NAB Science and Technology, said Smith is of a rare breed: "The countless hours he has spent with NRSC to bring new technology to the radio industry clearly shows his insight into how radio can be improved for the benefit of broadcasters and listeners. Smitty is probably the most respected engineer in the business."

Smith spends about one day a week in Washington on NRSC-related issues, and sometimes two to three days. He said he's fortunate Greater Media allows him the time and pays the expenses so that he may work on NRSC matters.

"I think it's terribly important for people in our industry to determine our own destiny," Smith said. "With the consolidation of the last five to 10 years, in our quest for bigger and better bottom lines, the number of qualified people able to do the (NRSC) work gets smaller. Yet the amount of work doesn't get smaller as technology ramps up and R&D cycles get faster."

"It's important to have a hand in our own future, where it's going and how it's going to get there."

Several colleagues noted Smith's ability to foster communication among



Milford Smith

opposing parties to find common ground, and his use of humor to do so.

"There were a couple of times through this process where I wondered, 'How will we ever overcome this issue?' and he found a way," said Andy Laird, DOE Journal Broadcast Group.

Some NRSC work is contentious. For example, the members recently created "task groups" to explore surround sound in relation to HD Radio and to review AM bandwidth issues, including the possibility of bandwidth reduction.

## Communication skills

Multichannel capability for digital radio has received more attention due to the FCC's recent clarification of how stations can obtain the right to split their FM digital signals. But multichannel has been a component of the Iboquity system and is part of the new NRSC-5 standard for IBOC, Smith said.

Smith also is said to be adept at communicating with both managers and technical experts, a trait appreciated by Peter Smyth, president and chief executive officer of Greater Media.

In addition to a leadership on digital radio, Smyth said. "Smitty has contributed to Greater Media's presence in each of our markets by insuring that we have the best signal coverage possible, significant emergency capability and 'people friendly' technical and physical plants."

As part of his responsibilities, Smith has overseen the digital conversion of Greater Media stations. He predicted that the majority of the company's stations — those in Boston and nearly all of the Philadelphia facilities — would be converted by this month, with the remaining stations, mostly in suburban New Jersey, done by the end of this year. The company owns 19 stations, 18 of them FMs.

In its announcement, NAB mentioned Smith's innovative work overseeing the design and replacement of an FM master antenna system atop the Prudential Center in Boston. Four original stations on the system remained on the air from that location, while three more were added without disrupting the other facili-

ties, NAB noted.

Smith told Radio World another challenging aspect of the project was "a mandate from the building that we solve the rooftop RF exposure problem, or we

would be dismissed from the building." The system eventually designed met "tight requirements for downward radiation," regarding rooftop illumination, he said.

## Following giants

Another notable project was the relocation of KLSX(FM) in Los Angeles to Mt. Wilson. NAB credited him with developing "a unique strategy to relocate this station from an inferior site, in the process creating a full-market signal."

The move helped the competitive situation for the station, said Smith, who likened the project to a Rubik's Cube in the number of regulatory approvals needed.

Prior to Greater Media, Smith spent 11 years in a similar position with First Media Corp and several years with Tribune before that. He entered radio as a college student in Vermont, where he grew up. Smith worked as a disc jockey and program director in addition to his chief engineering duties at various stations before choosing engineering as his career.

Smith, his wife Maralee and their daughter live in New Jersey. In his spare time, Smith teaches scuba diving.

Past winners have included Belar's Arno Meyer, Harris' Geoff Mendenhall and Infinity's Glynn Walden. "When you look at the other recipients I'm somewhat awed," he said. "I feel like I'm walking in the footsteps of giants." 🌐



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# Do It Like Smitty

Want to succeed in radio engineering? Do it like Smitty.

I have no idea if he would agree with me on the following points. But after years of watching his career, I think any radio engineer — any manager, for that matter — would do well to emulate Milford Smith.

*Present yourself and your company well.* — Radio engineers (and journalists) often are criticized for not presenting themselves in a professional manner. I think this stereotype is dated. Still, we sometimes forget that people judge us, and our employers, by how we look, dress and care for our appearance. We are sending a message about how we think of ourselves and how we think of the people we meet.

Is there an engineer you admire? Take note of how he presents himself in public. Chances are he follows the dictum, "If you want to succeed, dress like the boss."

*Take an active part in your industry.* — Our profession is nothing more than the sum of its parts. Thank goodness for leaders who devote time to its betterment. For Smitty, that means the vital standards work at the NRSC and NAB, as well as membership in SBE, IEEE, NARTE and other groups.

*Care about the state of the profession.* — Plenty of folks like to beef about what's wrong with radio (believe me, I hear it). Far fewer of them do much about it though.

As Smitty told Leslie Stimson in her article on page 3, "It's important to have a hand in our own future, where it's going and how it's going to get there."

*Be smart.* — OK, maybe you don't have to be a physics major. But you can value learning; and put that into practice by continuing to educate yourself.

*Find a good employer and stick with them.* — Another popular complaint I hear is how "bean counters" have ruined radio. Well, if you think so, don't work for one. Invest in yourself and go find a company you believe in to work for.

Smitty has two decades under his belt with Greater Media. They're lucky to have him; and you get the sense he feels the same way about the company. He is quick to point out that the company supports his out-of-office activities on behalf of radio.

*Value consensus.* — We live in a black-and-white, red state/blue state, vote-him-off-the-island kind of society. Compromise and consensus building are considered boring.

Not to me. I'd rather work for a manager who is noted by colleagues for his ability to communicate with many kinds of interest groups and to bring people together.

*Support innovation.* — Greater Media made an early commitment to converting all of its stations to digital. Its President/CEO Peter Smyth said two years ago, "Greater Media has a long history of being on the cutting edge of technology, and we will continue that tradition to make radio a better medium for our advertisers and listeners."

Smitty's presence is both a reason for and a proof of the company's commitment.

*Have a smile and a kind word for everyone.* — When it comes to being effective in the workplace, nothing can replace the power of being nice.

*Get a cool nickname.* — Follow the steps above, and maybe you'll be on a first-name basis with the industry too.

Congrats, Smitty. NAB chose well when it picked you as this year's winner of its Radio Engineering Achievement Award.

A man who always had a kind word was Morrie Blum. I'm sorry to note his death recently at age 95.

## From the Editor



**Paul J. McLane**

Blum had owned WANN(AM) in Annapolis for many years; he was an institution by the time I met him in the 1980s when I worked for Radio Systems. Radio World readers knew about Blum's work in the EBS/EAS arena; in his community he was far better known as a pioneer in race relations, a white Jewish radio station owner airing music by and for African-Americans and practicing colorblind hiring at a time when that wasn't common.

"If I can serve next to black soldiers in World War II, and we can help each other survive through that," Blum told the Baltimore Sun in 1997, he could "understand the brotherhood between us."

Even in 2005 we need more men of all colors and faiths like that.

★ ★ ★

I welcome Electronics Research Inc. as a sponsor to this column. Long a supporter of Radio World, the company is new to the space below and appears here in alternating issues with Burk Technology.

ERI has manufactured commercial and telecom broadcast products since 1943. It is based at a 165,000-square-foot facility in Chandler, Ind. It built its first tower in the 1940s for an experimental FM; its radio broadcast products now include master and side-mount FM antennas, the iBox Hybrid Combiner, cross-modulation product filters, combiners and transmission line. It offers TV antennas, towers, lightning protection and a range of installation services. 🌐

## Engineering Award Winners

The NAB established its Engineering Achievement Award in 1959. The following is a list of past winners. Note: NAB separated Radio and TV beginning in 1991; Radio winners are shown.

1959 John T. Wilner  
1960 T.A.M. Craven  
1961 Raymond F. Guy  
1962 Ralph N. Harmon  
1963 Dr. George R. Town  
1964 John H. DeWitt Jr.  
1965 Edward W. Allen  
1966 Carl J. Meyers  
1967 Robert M. Morris  
1968 Howard A. Chinn  
1969 Jarrett L. Hathaway  
1970 Philip Whitney  
1971 Benjamin Wolfe  
1972 John M. Sherman  
1973 A. James Ebel  
1974 Joseph B. Epperson  
1975 John D. Silva  
1976 Dr. Frank G. Kear

1977 Daniel H. Smith  
1978 John A. Moseley  
1979 Robert W. Flanders  
1980 James D. Parker  
1981 Wallace E. Johnson  
1982 Julius Barnathan  
1983 Joseph Flaherty  
1984 Otis S. Freeman  
1985 Carl E. Smith  
1986 Dr. George Brown  
1987 Renville H. McMann  
1988 Jules Cohen  
1989 William Connolly  
1990 Hilmer Swanson  
1991 George Marti  
1992 Edward Edison & Robert L. Hammett  
1993 Robert M. Silliman  
1994 Charles T. Morgan  
1995 Robert Orban  
1996 Ogden Prestholdt  
1997 George Jacobs  
1998 John Battison  
1999 Geoffrey Mendenhall  
2000 Michael Dorrough  
2001 Arno Meyer  
2002 Paul Schafer  
2003 John Reiser  
2004 Glynn Walden

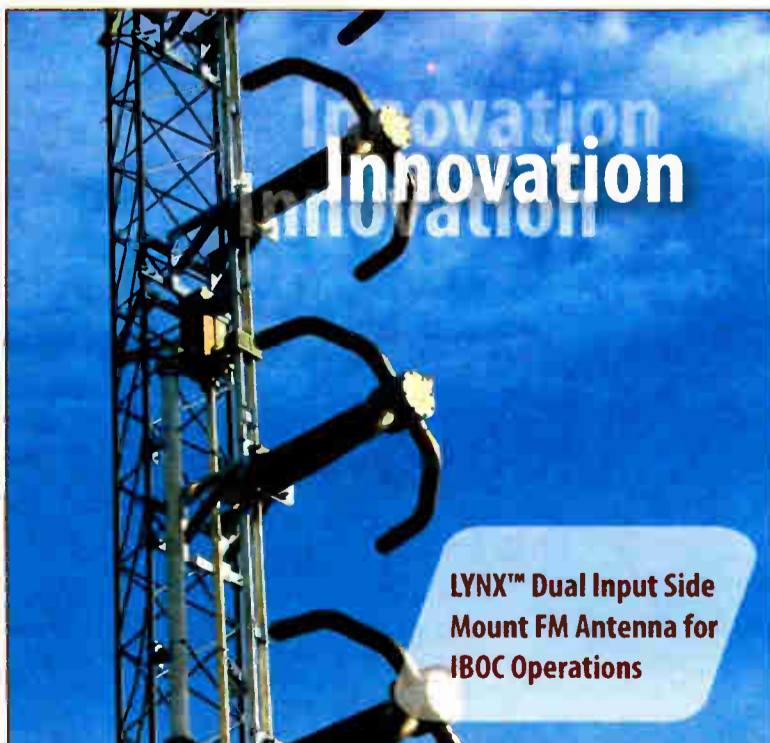
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## GUEST COMMENTARY

# TV 'Must Carry' Offers Lesson for Radio

*We Must Insist That Any Satellite Radio Has Premium AM/FM Components*

by John F. Garziglia

The FCC's recent refusal to mandate carriage of all digital television channels carries an important lesson for radio broadcasters.

Television broadcasters have for years had their heads in the sand, smugly believing that their programming content alone, existing and promised, would be sufficient to mandate cable and satellite carriage by the federal government. Meanwhile, television broadcasters lost control of the most important and valued aspect of their business: their direct pipeline to the viewer.

lite reception into their vehicles, how eager are they going to be to continue to put in premium antennas for local radio reception?

If the quality of antennas for local radio deteriorates, broadcasters may find that even HD Radios have the reception range of a poor-quality \$10 clock radio. With poor radio receivers, radio broadcasters could lose a big portion of their franchise, as they will no longer be able to reach all of their listeners.

Radio broadcasters must be careful not to lose control of their ability to reach their audiences as television broadcasters have. It may not be easy to keep this



John Garziglia

lacking proper antennas or otherwise inferior to the satellite portion of the radio receiver.

The ramifications of losing quality local radio reception will take years to manifest themselves. Once lost, quality local radio reception will never be resuscitated.

The predicaments that AM broadcasters faced for so many years, and TV broadcasters now face, are good examples. As AM radio receivers degraded, the public listened less to AM, and because they listened less, they cared less about what AM sounded like.

Television broadcasters believed their programming would always be essential

to the public and therefore it did not matter by what route the signal got to the consumer's TV. AM is now a vestige of what it once was. The actual transmission of a TV signal, other than to be received by cable head-ends, is becoming irrelevant.

Radio broadcasters should act now to ensure that local radio can continue to compete and be received by consumer radio receivers as the public makes satellite radio a part of the radio listening experience. The long-term continuing health of local radio depends upon satisfactory reception.

If a radio set is manufactured with satellite radio reception capability, that radio receiver should be required by law to meet certain technical standards of reception for local radio signals. With HD Radio now being rolled out, any radio receiver that can receive XM or Sirius should be required to also receive high-quality HD Radio transmissions.

If television broadcasters had sought assurances that digital TVs anywhere in the market would receive quality signals without cable, over-the-air TV would not be beholden to cable. Local radio needs quality radio receivers and antennas able to achieve high-quality reception of all radio signals in a radio market to compete. Radio broadcasters now have a market-wide franchise of ubiquitous reception that needs to be protected zealously.

Garziglia is an attorney with Womble Carlyle Sandridge & Rice PLLC. RW welcomes other points of view to radioworld@imaspub.com.

**T**elevision broadcasters now waste millions of watts with few viewers directly receiving their signals. Radio broadcasters should be careful the same fate does not befall them.

Radio broadcasters should be careful that the same fate does not befall them.

Television broadcasters now waste millions of watts with few viewers directly receiving their signals. It did not have to be this way.

Many years ago, when digital television was being developed, television broadcasters had the opportunity to remake their business and take away cable's looming control of their audiences, by making it a priority that every television receiver in a market, whether in someone's bedroom, basement, office or automobile, could receive flawless and continuous digital signals without an auxiliary or outside antenna, and most important, without being connected to cable.

### TV gave it up

Unfortunately, TV broadcasters opted for keeping the status quo. Improved reception was never a priority. Digital television today suffers from the same or worse reception defects from which analog television suffers.

There is a lesson in this for radio. Radio broadcasters must never forget that their franchise is the unfettered ability to reach every radio receiver in the market.

Today, it appears as if that ability to reach all audiences will continue with the advent of digital, or HD Radio. But there is a danger with HD Radio that broadcasters have ignored.

Local radio reception depends upon quality receivers and an outside antenna for automobiles. For years, auto manufacturers have tried to hide or otherwise get rid of radio antennas by hiding them in retractable mounts and hiding them in windshields and back windows.

Many automobiles now have quite expensive diversity antennas for FM reception that produce excellent reception. But as auto manufacturers integrate antennas for XM and Sirius satel-

from happening. No matter how good HD Radio is, if the consumer does not demand quality radio reception, HD Radio reception may be dumbed down just as AM has been for so many years.

### Reception not main topic

As the consumer clamors for satellite radio, the time may be coming when radio receivers receive satellite radio just fine, but cannot satisfactorily receive local radio stations. Radio broadcasters cannot depend upon the consumer to insist upon high-quality reception of local radio stations.

It is rare for a consumer to choose a particular radio receiver simply because of high-quality reception, particularly if the choice of a radio receiver is based upon its ability to receive satellite radio. Think of the many years in which consumers bought AM/FM receivers and paid scant attention to the quality of the AM. Our industry must accept that, at least for the next several years, the quality of AM, FM and even HD Radio reception is likely to be an afterthought for the consumer.

It is time for broadcasters to recognize that the ability of radio sets to receive their signal market-wide is their franchise to keep or lose. Our government and the public have a substantial stake in local radio stations being received in a satisfactory manner by local listeners, both for emergency information purposes, and for local public affairs information.

Back in the early 1970s, UHF television was having a difficult time gaining viewers due to a lack of receivers. The government stepped in and required manufacturers to sell televisions with UHF included. UHF is a reality today because receiver standards were mandated.

With AM, FM and HD Radio, the public today faces not a lack of receivers, but rather the likelihood that future receivers will be of a substandard quality, either

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# Continental Changes Hands

*Transmitter Vendor Sold Back to Veritas Capital Fund*

by Randy J. Stine

**DALLAS** Continental Electronics is getting its name back. In addition, officials believe the sale of the firm back to an investment company familiar with it may help the vendor toward rapid growth.

The ownership change comes less than two years after Continental was acquired by DRS Technologies Inc. DRS then changed the name of the transmitter manufacturer to DRS Broadcast Technology, while retaining the Continental name on the product line.

Veritas Capital Fund II L.P., a New York-based investment company, acquired Continental Electronics Corp. along with another company, DRS Weather Systems, in a stock purchase. The value of the transaction was not disclosed. The deal closed on March 10.

## Back and forth

DRS Technologies is divesting its broadcast and weather system units to concentrate on its core defense technology business, the company said.

The sale marks Continental's return to the Veritas Capital Fund, which had first

acquired the company in 2000 following a merger with Integrated Defense Technologies Inc. Veritas then sold Continental in 2003 to DRS Technologies for an undisclosed sum.

Continental Electronics Corp. will keep its operations in Dallas and plans no changes to its workforce of approximately 150 employees, said John Uvodich, president of Continental Electronics.

"Veritas Capital liked what they saw before and has a real keen interest in building our business. Under Veritas Capital, we will be focusing on growth to develop new products," said Uvodich. "Nothing will change in the way we deal with broadcast-ers."

Uvodich said Veritas Capital supports Continental's planned R&D projects and international and domestic business projections.

"Through growth and acquisitions, we plan to be a \$100 million company within the next four to five years," Uvodich said.

Continental Electronics manufactures broadcast transmitters for AM/FM/short-wave and offers supporting analog and digital broadcast technologies. Ibiqity Digital in February licensed it to become the fourth



John Uvodich

transmission company to manufacture HD Radio excitors.

"HD Radio will be huge for us. We are very excited about the potential to manufacturers and broadcasters alike when it comes to digital. It creates a new market that didn't exist with analog. Rather than supporting only an equipment replacement business, we now have opportunities in the new digital broadcasting markets," Uvodich said.

Continental Electronics planned to show its new line of IBOC products at NAB2005, Uvodich said, with production and deliveries to follow in the "September and October timeframe."

The company expects to address the high-power FM market first. Uvodich said this segment is one of the most prevalent markets with regards to licensing from Ibiqity and matches Continental's experience. Continental planned to introduce an approach for FM broadcasters using 10 to 25 kW transmitters for their analog broad-

casts.

Besides IBOC, Uvodich said Digital Radio Mondiale's digital broadcast development is encouraging. Continental is a founding member of the consortium for the technology currently designed for short-wave, AM/mediumwave and long-wave.

"We introduced a 100 kW shortwave transmitter specifically for DRM in 2004 and are finalizing the documentation for the retrofit kits for existing SW transmitters to broadcast DRM," Uvodich said. "Both types of digital products will be important to future growth."

Uvodich acknowledged that customers may question the resale of Continental several times over the past five years. However, he said, "their perception of the company and loyalty to its products" remains strong.

## Ahead

Uvodich described the current analog marketplace as "difficult" with a "fixed customer base and mostly a replacement market."

"Our present backlog in the factory is solid and firm for the next couple of years. We are working on profitable products and expecting great returns on both IBOC and DRM equipment sales," Uvodich said.

As for the name change, Uvodich said everyone seems excited to use the venerable "CEC" name again.

"We are well known across global markets at Continental Electronics as a supplier of dependable, high-performance broadcast products. We are proud and delighted to once again be known as simply Continental Electronics Corp.," Uvodich said.

James Weldon founded Continental Electronics in 1946. The company has experienced several ownership changes over the years.

## NEWSWATCH

### FCC Denies Indecency Complaints

**WASHINGTON** The FCC denied several indecency complaints involving high-profile television broadcasts in March, including one involving the Democratic National Convention.

The commission staff said the agency does not regulate indecency on cable and it's not going to start now.

The FCC denied several complaints stemming from an obscenity that aired at the Democratic National Convention this past summer. A CNN mic picked up a staffer's utterance of the f-word because of a snafu with the balloon drop that was supposed to follow Senator John Kerry's speech.

The agency reiterated that cable services "are not broadcast services, but subscription-based services, which do not call into play the issue of indecency."

The agency also said that while the "dropped towel" bit on a Monday Night Football introduction was sexually suggestive and titillating, it was not indecent. After receiving several complaints about the Nov. 15 segment, the agency reviewed the broadcast involving a locker room exchange between football player Terrell Owens and actress Nicollette Sheridan, appearing as her character in ABC's "Desperate Housewives."

The commission notes Sheridan only

dropped her towel at the end of the segment and viewers could only see her from the back, nude from the waist up. The agency said the scene is not graphic or explicit enough to be indecent.

Commissioner Michael Copps did not object to the decision, but said, "There wasn't much self-discipline in this particular promotion. Broadcasters can and should do better."

### 'Saving Private Ryan' Not Indecent

**WASHINGTON** The commission also denied complaints alleging that various ABC licensees aired indecent and profane material during a presentation of the film "Saving Private Ryan."

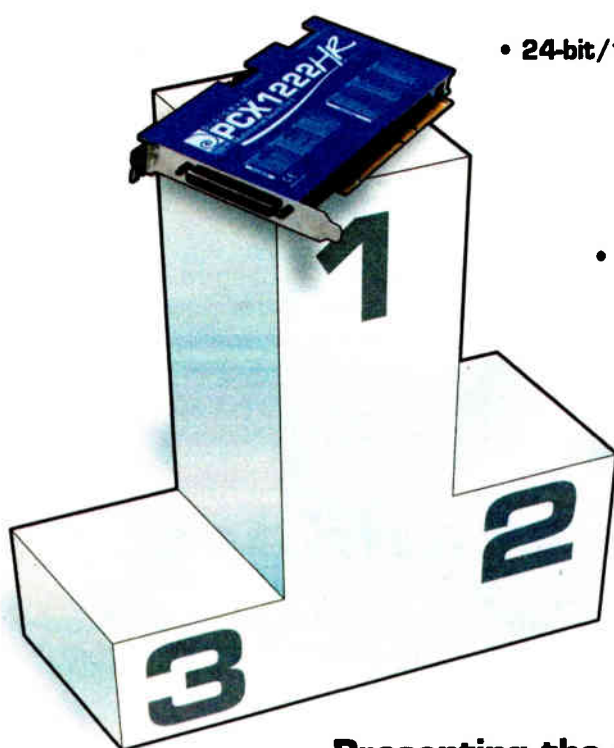
The agency received complaints about graphic violence and foul language in the war film. Some TV stations decided not to air the film for fear of running afoul of indecency rules.

But in its decision, the agency said, the language used in the movie was not indecent, nor profane. The agency has decided that similar material depicting an historical view of World War II and wartime atrocities is not offensive, nor indecent.

While some complaints referenced the violence depicted in the film, indecency and profanity prohibitions are not applicable to violent programming, said the commission.

See NEWSWATCH, page 7 ▶

## The industry standard reaches new heights



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# Newswatch

► Continued from page 6

Then-FCC Chairman Michael Powell stated in the decision, "The horror of war and the enormous personal sacrifice it draws on cannot be painted in airy pastels. The true colors are muddy brown and fire red and any accurate depiction of this significant historical tale could not be told properly without bringing that sense to the screen."

He noted that fair warning "is an important consideration" in such cases, stating that frequently when it receives complaints, the public is "fed up with being ambushed with content" when they least expect it.

## Senators Introduce Indecency Bill

**WASHINGTON** Sens. Kay Bailey Hutchinson, R-Texas, and Jay Rockefeller, D-W.V., have introduced a bill aimed at curbing broadcast indecency.

The "Indecent and Gratuitous and Excessive Violence Broadcasting Control Act of 2005" would require the FCC to fine broadcasters \$500,000 per indecent utterance, with a cap of \$3 million per day. For TV, the measure requires the commission to assess the effectiveness of the V-Chip and other technologies to protect children from so-called indecent programming.

The measure would also mandate that network-affiliated stations be given a "reasonable opportunity to review all recorded or scripted programming in advance so they can reject it if they feel it is too excessively violent or sexual," according to Hutchison.

"If our broadcasters are not willing to voluntarily protect our children, then it is the responsibility of Congress to step in," Hutchison said. "Broadcasters do not have a constitutional right to flood the airwaves with excessive violence and sex."

A similar measure passed by the House does not include violence.

## Dave Agnew Joins Clear Channel

**LINCOLN, Neb.** Dave Agnew has joined Clear Channel Radio as director of engineering in the Lincoln, Neb. market. He will assist Regional Engineering Manager Allan Brace with the HD Radio rollout in that market. The company has four FMs there.

"Clear Channel was very fortunate to have Dave Agnew join our staff," said Jeff Littlejohn, executive vice president of distribution development for Clear Channel Radio.

"Dave will be our market engineering manager for Lincoln, but we will also leverage his knowledge of HD to our benefit."

Agnew was FM applications engineer with Harris Broadcast. He told Radio World the move is a chance to get back to where he and his wife grew up. He worked as a contract engineer for his father at what was then WFMQ(FM) in the 1960s.

"My whole family was in radio. My

dad was the GM. My brother was in sales.

"I remember when we were giving away FM converters for cars," said Agnew. "Now, I get to help the stations with HD Radio."

## Wilson New Dielectric President

**RAYMOND, Maine** Dielectric Communications named David Wilson as president.

He had been vice president of business development of two divisions of SPX, the parent company of Dielectric.

Wilson has degrees in electrical engineering and business. He replaces John Capasso, who had filled that posi-

tion for about a year and becomes vice president of transition services at SPX.

## Powell to 'Decompress' At Aspen Institute

**WASHINGTON** Like his predecessors Bill Kennard and Reed Hundt, outgoing FCC Chairman Michael Powell joined the Aspen Institute, a Washington think tank, for a few months after he left the agency.

He characterized the three-month period as a senior fellow as a good opportunity to "decompress" after his nearly eight years at the commission. He will advise the communications and

society program on leadership, communications policy and program activities and operations.

## Ferree Now COO of CPB

**WASHINGTON** Ken Ferree is going to help shape the direction of the Corporation for Public Broadcasting. Ferree, who left his position as chief of the FCC's Media Bureau March 4, is the new chief operating officer. He'll sharpen the organization's focus on the education, programming and technology needs of pubcasters, said CPB President/CEO Kathleen Cox, who held the position before she became CEO last summer.

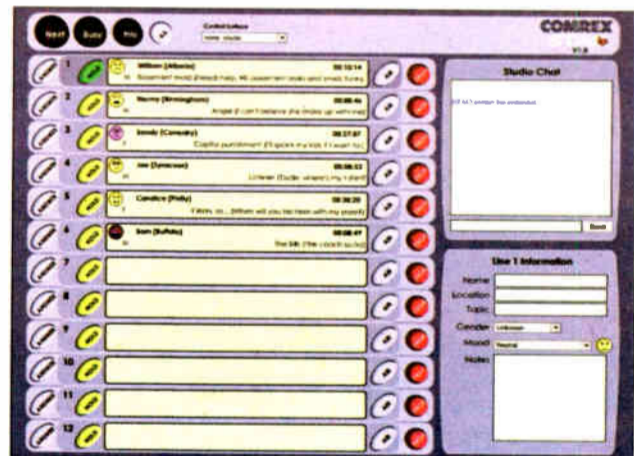


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**COMREX**

# EAS

► Continued from page 1

of Homeland Security within the FCC's Enforcement Bureau, said the timing of the release of the EAS Report and Order is unclear.

"We continue to hold ... meetings with public warning vendors and other proponents of public warning in this country. Internal deliberations should begin soon," he said.

Daily announced his resignation of that post subsequent to speaking to RW. His retirement was to become effective by the end of April; Ken Moran was named interim director of the commission's Office of Homeland Security.

Several emergency warning sources said they expect the commission to integrate existing EAS into a larger, open standards-based, "all-media" national warning system without a lot of changes to current EAS rules and equipment requirements.

Daily characterized the volume of comments to the EAS NPRM as "heavy," with more than 150 comments and reply comments filed last fall.

"We continue to work closely with the U.S. Department of Homeland Security and FEMA on issues and programming," he said.

Daily said the Federal Emergency Management Agency, which is part of the Department of Homeland Security, has been given the "executive-level position and the role of program manager" on leading public warning in the country.

Daily anticipated that drafting of the document would begin by the time a new chairman was in place. Commissioner Kevin Martin was elevated to the position of chairman by President Bush in March; Enforcement Bureau Chief David Solomon intends to depart in May.

The FCC's Enforcement Bureau regulates EAS participation by requiring stations to have working EAS encoder/decoders and to conduct regular system tests.

Of a perceived shift in EAS oversight, Reynold Hoover, director of FEMA's National Security Coordination Office, said, "We have re-engaged with the FCC and NOAA to find solutions that work in this post-9/11 world. The FCC continues in its role with enforcement while (FEMA) focuses more on the executive side with an emphasis on execution of the program. We have a good relationship and work very closely with the FCC."

Hoover said the Department of Homeland Security is in the process of overhauling the Primary Entry Point network. FEMA maintains dedicated phone lines from the White House to 34 PEP stations that reach approximately 90 percent of the continental United States, plus Hawaii, Alaska and Puerto Rico. The PEP system allows the president to issue an Emergency Alert Notification and address the American public during an emergency.

"We will add additional stations to the PEP network so that every state will have a PEP station. We could have close to 60 when it's done," Hoover said.

In addition to more radio stations and a broader coverage area, FEMA is expecting

to add satellite distribution of emergency messages from DHS to PEP stations.

"We are exploring today's technologies to expand the system. We are asking the Primary Entry Point Advisory Committee to give us their recommendations with hope that we'll have everything in place by 2006," Hoover said.

DHS is developing two satellite systems, one a simple digital audio distribution network without Internet or POTS dependence, said Mark Manuelian, president of the PEP Advisory Committee.

"The second system is a secure data distribution system that would meet federal encryption and reliability standards. The data stream would be based on Common Alert Protocol," Manuelian said.

## Outdated?

The PEP program is federally funded and controlled. Funding is in place to expand the PEP network, Hoover said, with \$2 million earmarked from this year's federal budget and another \$10 million from Information Analysis and Infrastructure Protection, another part of DHS.

Some EAS detractors have argued that the PEP network is outdated because not every LPI station can receive a signal from a PEP station.

"We have been disappointed with the PEP plan in Connecticut, because we do not have a PEP station in our state, and coverage from New York and Boston PEP stations barely reached our primary stations," said Mike Rice, president of the Connecticut Broadcasters Association.

Rice believes if FEMA is going to build up the PEP network, it must also follow up with system testing.

"PEP itself has never been tested to see if the system works. Even if it were just once a year in the middle of the night, they ought to test it," Rice said.

Manuelian said, "Under ordinary conditions, some state EAS plans have not had reasonable access to a PEP signal. In other states, little or no effort was made to include PEP in the state EAS plans. It's hoped that by giving each state a PEP station, all states will include PEP in their plans."

Each PEP station is equipped with a shelter, a small studio, electromagnetic pulse protection, special EAS encoders and 30 days of fuel to run generators, Manuelian said.

Manuelian said FEMA is responsible for ordering a PEP system test and has never deliberately tested the system. "However, we have tested each box at each site to make sure they work," he said.

## States Say EAS Needs One Leader

**WASHINGTON** Attendees at a recent national meeting on EAS say they are taking a proactive stance on the issue and encouraging communities to file their plans to help improve public warning in this country.

Approximately 175 people attended an EAS summit held in February by the National Alliance of State Broadcasters Associations and sponsored by Clear Channel and Comlabs.

State broadcaster association presidents, state emergency management officials and emergency warning experts participated in discussions on how to improve EAS. More such meetings are planned.

"We are taking the initiative to make sure EAS is organized on the state and local level," said Ann Arnold, executive director of the Texas Association of Broadcasters.

"There has been a clear shift in responsibility for EAS to the Department of Homeland Security. Yet we still think someone needs to coordinate on the local level to guarantee each local community has an emergency warning plan to utilize broadcasters' mass audience."

The National Alliance of State Broadcasters Associations surveyed local primary stations (LPIs) prior to the summit, Arnold said, then surveyed attendees on their concerns about EAS.

Concerns about EAS vary greatly from state to state with some areas "very well organized and prepared and others not so well," Arnold said. The EAS summit included reports from each state's emergency communications committee on EAS readiness plans.

Summit speakers included Reynold Hoover, director of the Office of National Security Coordination for FEMA; Herb

White, dissemination services manager for the National Oceanic & Atmospheric Administration; and Frank Lucia, who retired from the FCC in 2001 as director of emergency communications and senior advisor, Emergency Alert System.

The FCC is thinking about mandating broadcaster participation in non-national alerts. That change could help strengthen EAS, sources believe.



TAB's Ann Arnold, left, and EAS Summit Manager Tom Fahy during an EAS panel discussion held by the National Alliance of State Broadcasters Associations.

"However, neither FEMA nor the FCC have direct authority over the operation of state and local EAS plans, which is where most of the shortcomings of EAS present themselves," said Suzanne Goucher, president and chief executive officer, Maine Association of Broadcasters. "The federal government does maintain a key role in encouraging the development of effective state EAS plans and in providing funding to implement new technologies."

A series of regional EAS "summits" are scheduled for this fall, said Arnold, who is NASBA EAS planning chair. A yearly national summit is scheduled for early 2006.

"We want to be proactive and do what we can to make EAS more effective. It's important that states and local communities register their plans," said Karole White, president and chief executive officer of the Michigan Association of Broadcasters.

— Randy Stine

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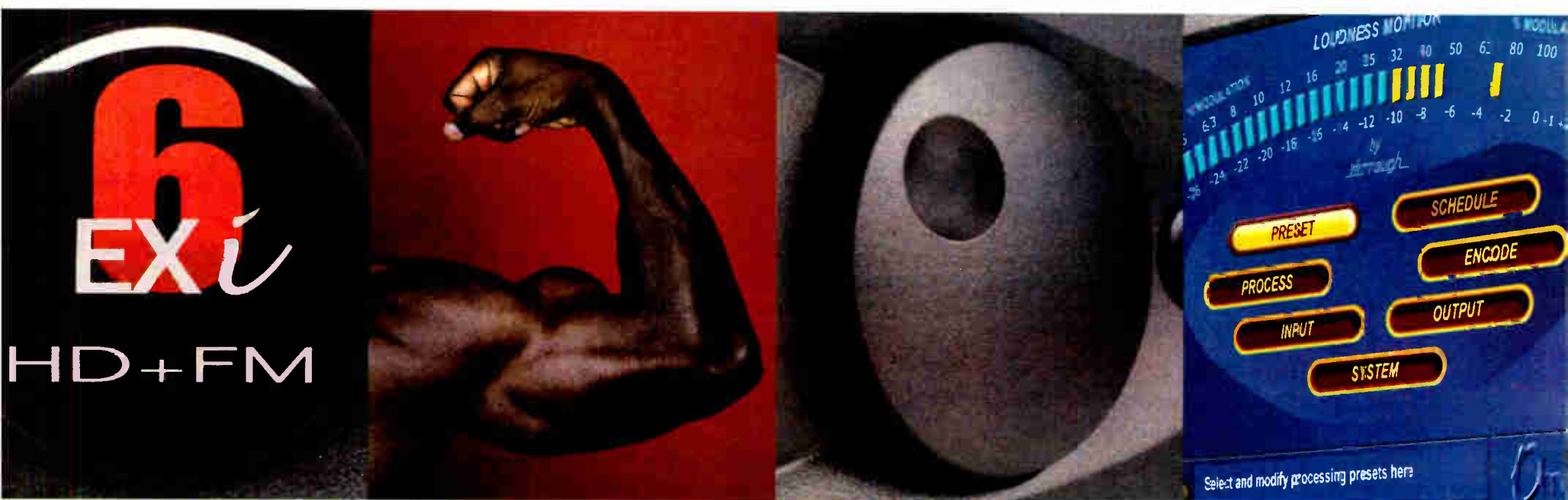
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A lot of muscle? You bet. No wonder the competition is running scared.



# On-Demand Media Use Rises

by Leslie Stimson

**NEW YORK** Nobody's dropping terrestrial radio like a stone in our lifetime, despite dire predictions.

That is one of the broad conclusions gleaned from a survey by Arbitron and Edison Research, "Internet and Multimedia 2005: The On-Demand Media Consumer."

It also found that awareness of satellite radio is growing; and that as broadband Internet use goes up, so does Americans' use of on-demand media devices.

"The key driver of online behavior is residential broadband access to Internet," said Arbitron's Bill Rose. "Broadband is now as common as dial-up."

Eight in 10 Americans have access to the Internet; only half did in 1999, according to the research. Studies show that having broadband access goes along with having on-demand media devices.

Current listeners to Howard Stern are twice as likely to use on-demand media and buy 10 DVDs or 11 CDs a month, the companies found.

Twenty-nine percent of those surveyed said they try new products, meaning on-demand media consumption is spreading beyond early adopters, according to the research.

Sirius is catching up to XM in terms of consumer awareness. Now, 54 percent of those 12+ are aware of Sirius and roughly 50 percent have heard of XM — compared to 8 percent for Sirius and 17 percent for XM in 2002.

Rose and Joe Lenski, executive vice president of Edison Media Research, referred to the recent "avalanche" of publicity for on-demand media that's helping to create the perception that traditional media is being left behind. They said that's not true.

Asked whether they would continue to listen to traditional radio, 82 percent of respondents said they would. Looking at Time Spent Listening among diary-keepers, persons 12+ spend roughly 2:48 with

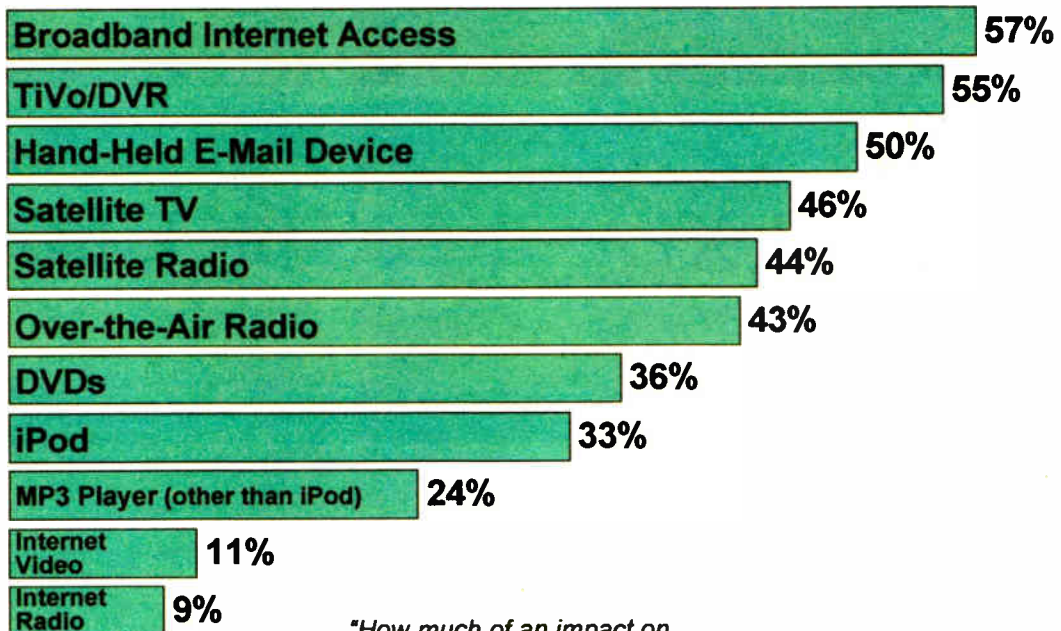
traditional radio every day. Those with significant on-demand media use, according to the research, including satellite radio, only indicate a 15-minute difference.

media lifestyle. Online radio use is growing. Twenty million Americans have listened to online radio in the last week. Overall, 36 percent

Advertisers need to pay attention to the trends "as young adults gain more control over media consumption," Lenski said. "Advertisers will still be able to get through to the audience, but they'll need to be more creative." For online advertising that means going beyond banner ads and pop ups, he said.

## Broadband and TiVo/DVR Have Biggest Impact on Users' Lives

% of Owners/Users Giving "4" or "5" on 5-Point Impact on Life Scale to...



"How much of an impact on your life has (item) had?"

("1" = "No Impact at All," "5" = "Big Impact")

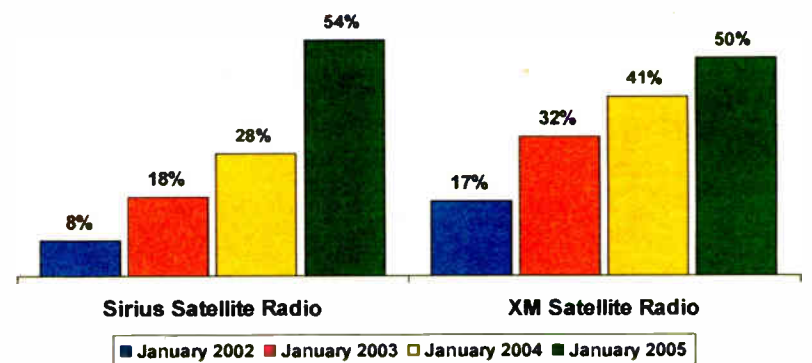


More than half of consumers who have broadband Internet access or own a DVR or handheld wireless e-mail device say these items have had a major impact on their lives.

An estimated 27 million Americans own one or more on-demand media devices — such as a TiVo/DVR, iPod or other portable MP3 player — and exhibit multiple behaviors that show a heavy tendency towards an on-demand

## Awareness of Both Satellite Radio Providers Has Grown Substantially

% Having Ever Heard of...



Awareness of satellite radio has jumped.

of Americans have sampled online radio, 15 percent have listened in the last month and 8 percent in the last week.

But as online use grows, so does consumers' ability to block spam, banner ads and spyware. Nearly 50 percent of online users are blocking banner ads, two-thirds of those with home Internet access use spam blockers and one in five block spyware, according to the findings.

The research shows that "consumers are taking more control over the media they use, how they use them and when they use them," Lenski said.

Traditional media will need to factor the on-demand lifestyle into programming decisions, such as playing first-run programs more than once, providing consumers with content online in addition to over-the-air and partnering with on-demand media services, they said.

While it's important to keep trends in mind, consumer habits are not changing drastically, they said. "Traditional media should pace their plan based on what you have at the moment," said Rose.

The telephone survey included about 1,800 diary-keepers.

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(Tyler Broadcasting, Oklahoma City)

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## DIGITAL NEWS

## Internet Radio a Bigger Threat Than Satellite?

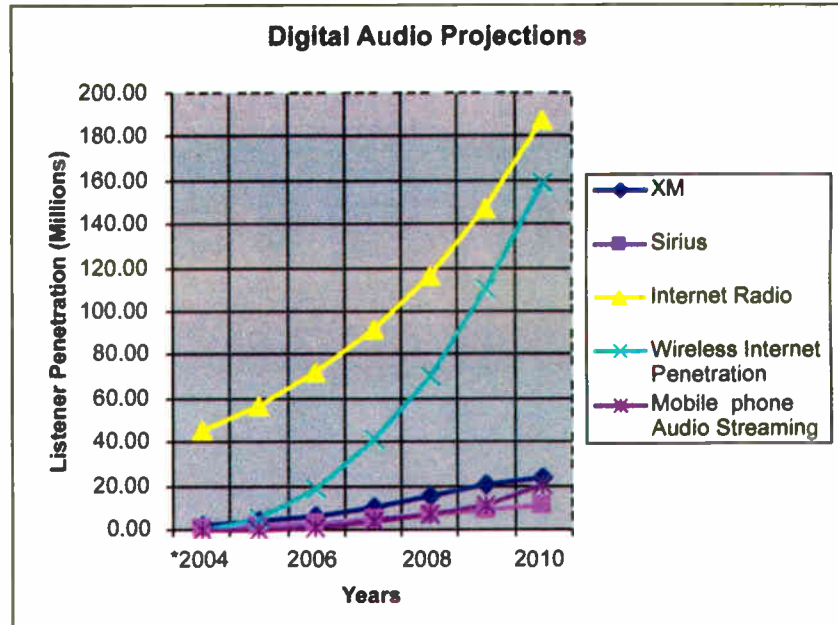
**GLENDAL, Calif.** Terrestrial radio's biggest threat is not from satellite radio but Internet radio and wireless Internet. That's according to a study published by audience research firm Bridge Ratings.

It projects satellite radio will have 35 million subscribers by 2010. But Internet radio streaming, with nearly 57 million listeners now, already is preferred among Americans for supple-

mental audio entertainment, the company says, and will continue its growth as more users upgrade to broadband — to the tune of 188 million listeners by 2010.

Bridge Ratings President Dave Van Dyke asks, "As Internet radio use accelerates both in and out of home, will satellite radio's profitability model matter?" Internet radio will be portable, much like an iPod or MP3 player with docking ports so it can be heard through car and home entertainment audio components, according to the data.

While a wireless solution for in-car Internet radio has yet to be determined, its potential for use by the public, at 160 million users by 2010, is greater than the growth projections for satellite radio, according to Bridge.




Art meets technology in the latest digital console from Logitek. Like its namesake, the Mosaic uses individual pieces (modules) to make up a work of art for your facility.

The Fader module contains all controls for two input channels. Narrow and wide Softkey modules supply user programmable buttons for extensive machine and router control. The Monitor module has dedicated source and gain controls for a speaker and two headphone outputs as well as intercom controls. Narrow and wide Meter bridges are equipped with an LED high resolution meter as well as user configurable LCD screens for display of auxiliary meters, clock, timers, talk delay or user graphics.

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## Sirius Plans Marine Weather Data Service

**NEW YORK** Sirius is working on the launch of what it considers its first premium data offering, a marine weather service due out late this year.

Sirius says weather service and forecast company WSI Corp. will provide marine weather content. The service would include graphical and text information, including water surface temperatures, lightning strikes, coast-to-coast U.S. and Canadian weather radar, storm tracking, winds and wave heights.

Sirius and XM radios are sold in marine versions. Senior Vice President of Sirius Services Larry Pesce said the new offering would extend Sirius' market position to include marine-specific services. The satcaster says its service can be received in the waters of North America, offshore and in the Caribbean.

Sirius plans to introduce a new data receiver for this application and publicize pricing later in the year.

## Yamaha Brings XM Home

**WASHINGTON** Yamaha Electronics and XM have a partnership to introduce what they say are Yamaha's first XM-ready home entertainment products. Yamaha will manufacture four receivers and several new home-theater-in-a-box systems with XM "Connect-and-Play," a technology designed to integrate XM into a range of home entertainment products.

XM introduced a chipset at CES that it says enables the satcaster's technology to be incorporated into various devices. This chip will be in the Yamaha XM products.

The first Yamaha XM-ready receivers will be available this month.

Consumers plug an XM Connect-and-Play home antenna into the XM-ready Yamaha AV receiver and activate the service to receive XM's channels.

The Connect-and-Play antenna can receive XM's satellite and terrestrial signals as well as perform channel tuning, decoding and audio transmission. It will be the only accessory needed to get XM through an XM-ready audio system.

—Leslie Stimson

# The routing switcher gets a new twist.

(About five twists per inch, actually.)

**Everybody needs to share audio.** Sometimes just a few signals — sometimes a few hundred. Across the hall, between floors, now and then across campus. Routing switchers are a convenient way to manage and share your audio, but will your GM really let you buy a router that costs more than his dream car? Unlikely.

If you need a routing switcher but aren't made of money, consider Axia, the Ethernet-based audio network. Yes, Ethernet. Axia is a *true network*. Place our audio adapter nodes next to your sources and destinations, then connect using standard Ethernet switches and Cat-6. Imagine the simplicity and power of Ethernet connecting any studio device to any other, any room to any other, any building to any other... you get the idea.



Routers are OK... but a network is so much more modern. With Axia, your ins and outs are next to the audio, where they belong. No frame, no cards, no sweat.

### Scalable, flexible, reliable... pick any three.

An expensive proprietary router isn't practical for smaller facilities. In fact, it doesn't scale all that well for larger ones. Here's where an expandable network really shines.

Connect eight Axia 8x8 Audio Nodes using Cat-6 cable and an Ethernet switch, and you've got a 64x64 routing switcher. And you can easily add more I/O whenever and wherever you need it. Build a 128x128 system... or 1024x1024... use a Gigabit fiber backbone and the sky's the limit.



### Are you still using PC sound cards?

Even the best sound cards are compromised by PC noise, inconvenient output connectors, poor headroom, and other gremlins. Instead, load the Axia IP-Audio Driver for Windows® on your workstations and connect directly to the Axia audio network using their Ethernet ports. Not only will your PC productions sound fantastic, you'll eliminate sound cards and the hardware they usually feed (like router or console input modules). Just think of all the cash you'll save.

### Livewire



<...> 100/1000

There's a better way to get audio out of your PC. No more consumer grade 1/8" connectors — with Axia your digital audio stays clean and pristine.



Put an Axia Microphone Node next to your mics and send preamplified audio anywhere you need it, over Ethernet — with no line loss or signal degradation.

### Put your preamps where your mics are.

Most mainframe routers have no mic inputs, so you need to buy preamps. With Axia you get ultra-low-noise preamps with Phantom power. Put a node in each studio, right next to the mics, to keep mic cables nice and tight, then send multiple mic channels to the network on a single Cat-6 cable. And did we mention that each Mic Node has eight stereo line outputs for headphones? Nice bonus.



### Put your snake on a diet.

Nobody loves cable snakes. Besides soldering a jillion connectors, just try finding the pair you want when there's a change to make. Axia Audio Nodes come in AES/EBU and balanced stereo analog flavors. Put a batch of Nodes on each end of a Cat-6 run, and BAM! a bi-directional multi-channel snake. Use media converters and a fiber link for extra-long runs between studios — or between buildings.



An Axia digital audio snake can carry hundreds of channels of digital audio on one skinny CAT-6 cable. We know you're not going to miss soldering all that multi-pair...



Scott Studios



Axia is already working with some great companies. Like Enco Systems, Prophet Systems, Scott Studios, Radio Systems, Balsys Technology Group, and of course Telos and Omnia. Check [AxiaAudio.com/partners/](http://AxiaAudio.com/partners/) to find out who's next.

### With a little help from our friends.

A networked audio system doesn't just replace a traditional router — it improves upon it. Already, companies in our industry are realizing the advantages of tightly integrated systems, and are making new products that reap those benefits. Working with our partners, Axia Audio is bringing new thinking and ideas to audio distribution, machine control, Program Associated Data (PAD), and even wiring convenience.



### Would you like some control with that?

There are plenty of ways to control your Axia network. For instance, you'll find built-in webservers on all Axia equipment for easy configuration via browser. PathfinderPC® software for Windows gives you central control of every audio path in your plant. Router Selector nodes allow quick local source selection, and intelligent studio control surfaces let talent easily access and mix any source in your networked facility.



Control freaks of the world, rejoice: intelligent Axia mixing surfaces give talent complete control of their working environment. Reconfigure studios instantly and assign often-used sources just where they're most useful.



**"This sounds expensive."** Just the opposite, really. Axia saves money by eliminating distribution amps, line selectors, sound cards, patch bays, multi-pair cables, and tons of discrete wiring — not to mention the installation and maintenance time you'll recover. And those are just side benefits: our hardware is about half the cost of those big mainframe routers. That's right... *half*. Once you experience the benefits of networked audio, you will never want to go back. [AxiaAudio.com](http://AxiaAudio.com) for details.



Axia products are available in the USA from Broadcasters General Store and Broadcast Supply Worldwide. See [www.AxiaAudio.com/buy/](http://www.AxiaAudio.com/buy/) for more information.  
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## Follow the Light to Your Lost Parts

by John Bisset

Not all transmitter buildings have to be 15 x 20 feet.

Fig. 1 shows a transmitter "hut" that Thermo Bond Buildings put together for First Broadcasting's Bert Goldman. With site space at a premium and only a small equipment rack housing the transmitting components, this size was ideal.

Bert adds, "For its size, it's really spacious inside, especially with the outside, wall-mounted air conditioner."

Thermo Bond is one of several companies that build such prefabricated structures. If you have a building project coming up, investigate the advantages of a prefab concrete shelter for your next transmitter job.

In addition to strength and deterrence of vandals, advantages include pre-wired electrical, air conditioning, grounding and cable trays — all labor that takes time when you're stick-building.

Contact Doug Olson at Thermo Bond Buildings, (800) 356-2686 or [doug@thermobond.com](mailto:doug@thermobond.com). Be sure to tell him you read about his company in the pages of *Workbench*.

★ ★ ★

I promised another solution for the UPS/generator problem we've been discussing. This one is from Russ Jenkins at CKLW in Windsor, Ontario.

Russ writes that about a year ago, he installed a UPS at one of the FM sites he maintains. He quickly discovered the same problem Les Proctor had at his sites. The UPS just didn't like gen-

erator power. Russ' UPS just would not accept the A/C from the diesel generator.

Russ resolved the problem by plugging the UPS into a Tripp Lite Power

the UPS goes online.

The Isobar filters the generator A/C sufficiently so the UPS accepts it, as well as giving surge protection. Maybe it will work for you.



Fig. 1: No transmitter building is too small for Thermo Bond.

erator power. Russ' UPS just would not accept the A/C from the diesel generator. Russ resolved the problem by plugging the UPS into a Tripp Lite Power Isobar surge suppressor. Model IBAR4ULTRA. The suppressor is plugged into your A/C receptacle. When the diesel is started for a test, the UPS switches so fast it does not even give off the little audible chirp one would hear when the power fails and

Russ Jenkins is chief transmitter engineer for a CHUM Radio group of stations that includes CKLW(AM-FM)/CKWW (AM) and CIMX(FM). Reach him at [rfman@sympatico.ca](mailto:rfman@sympatico.ca).

★ ★ ★

Paul Sagi provides engineering consulting services for a group of stations in Kuala Lumpur, Malaysia. He's been reading RW Online and offers several thoughts to help our readers.

There was mention of using a digital multi-meter instead of a scope to check power supplies. Using a DMM to check ripple on the DC output of power supplies is a good idea, he notes, provided that the DMM AC Volts function reads true RMS.

That's because ripple in the output of power supplies (especially switchmode supplies) contains a lot of harmonics. Some of the harmonics can be up to 1 MHz, so the frequency response of the meter is an important consideration.

Switch off the auto-ranging of the DMM when making these measurements; the varying input may prevent the meter reading from settling at the proper value.

Switching off the auto-ranging function is also needed when checking transformer winding continuity, especially on big transformers with many turns, e.g. high-voltage transformers; otherwise the meter won't settle.

Some readers have mentioned problems with people breaking into transmitter sites by cutting padlocks. Fig. 2 shows a photo of a "clamp" and "block lock" that are used on security gates in Malaysia. I've seen these b in locksmith stores. They are not invincible but should discourage casual break-ins. The construction of the block lock is such that it is nearly impervious to bolt cutters.

Paul Sagi also liked the idea of IR cameras and IR light sources to catch culprits in the act. Upping the risk of getting caught should discourage vandals. A few years ago, before the price of security cameras came down, an engineer bought a surplus metal, weatherproof camera case. Mounted at the edge of the transmitter building roof

See WORKBENCH, page 15 ►

## NEW! StudioDrive makes your PC a studio-in-a-box!

Shown actual size! It mounts in your PC!



StudioDrive is a 6-input stereo mixer that makes your PC a self contained fully integrated studio! Perfect for radio automation, newsrooms, PC edit suites, emergency studios, remotes, LPFM.

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- AIR Monitor input
- Mic Tally controls
- On The Air lights
- Headphone output

**HENRY**  
**FE**  
ENGINEERING

# Workbench

▶ Continued from page 14 and pointing toward the door, the “camera” spooked would-be vandals, and problems dropped dramatically.

Because the inside of the camera case was dark, one couldn't see if there was a camera inside. A short piece of coax sticking out of the back of the box and disappearing on the roof completed the ruse.

★ ★ ★

All of us at one time or another dropped some critical “one-of-a-kind” part on the floor during a repair. Paul Sagi offers a great way to find the small part.

First darken the room; then shine a flashlight parallel to the floor, with the beam just touching the floor. Scan in this way until you see the part, which will stand out (along with any dust bunnies, if the floor was not recently swept).

This works best on smooth floors or short-pile carpets. The method will also work on shag carpeting if the part is atop of the pile, instead of having fallen into it. If the part has fallen into the pile, shine the light downwards at right angles and imagine how the part would look if seen against the background of the carpet, to prime your mind to recognize it.


A strong magnet (for steel parts like O-

rings) can help when this method fails.

In my transmitter workshops, I've told about using bubble wrap laid in the bottom of the equipment rack or transmitter. Lugs, washers, bolts or other parts that fall are trapped between the “bubbles” and are easier to locate. Several pieces of wrap, folded, make a great seat or kneepad when you're working in the bottom of a transmitter.

Thanks, Paul, for the advice. He can be reached in Kuala Lumpur at [pksagi92@yahoo.com](mailto:pksagi92@yahoo.com).

John Bisset has worked as a chief engineer and contract engineer for more than 30 years. He is northeast regional sales manager for Broadcast Electronics. Reach him at (571) 217-9386, or [jbisset@bdcast.com](mailto:jbisset@bdcast.com).

Submissions for this column are encouraged, and qualify for SBE recertification credit. 

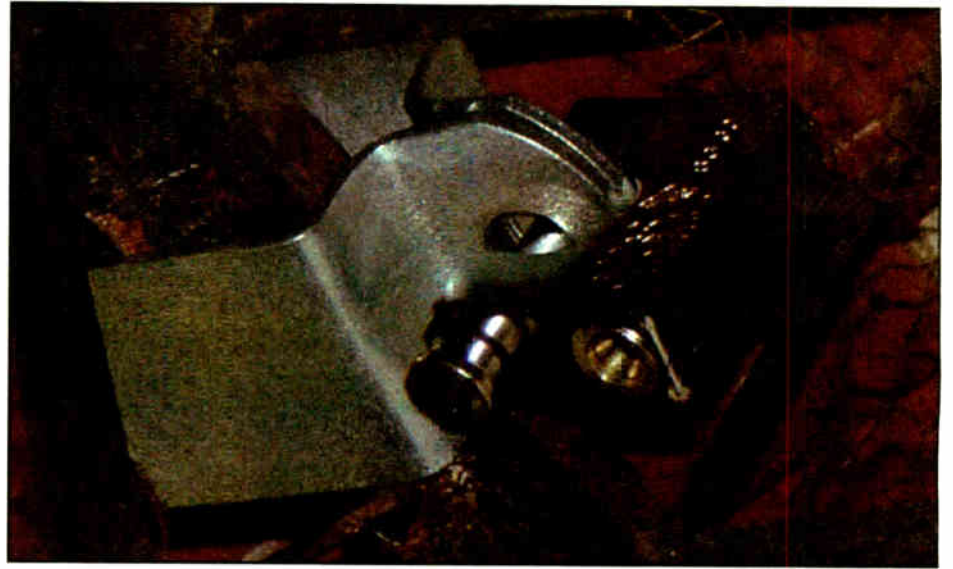


Fig. 2: Block locks and bolt cutters don't mix.

You Read It Here ...



## 20 Years Ago

Through the use of computers, newly elected SBE President Richard Rudman said he intends to make the organization's leaders more “accessible” to its membership.

SBE soon will install a computerized bulletin board at its national headquarters, Rudman announced, and is discussing hooking up with Comp-U-Serve.

In addition, some local SBE chapters, including the one in Washington, D.C., have installed their own bulletin boards, he added.

By mid-September, SBE also hopes to have a main hard-disc computer on-line at its national headquarters, he said. The system will keep detailed membership lists and records, and help SBE find writers for articles in the SBE “Signal” newsletter.

Eighteen SBE chapters have refused their funding rebates (through dues) from SBE's national office, in order to help finance the computer system, Rudman added.

The duties of a broadcast engineer are changing, and Rudman said SBE, with its use of computers, can keep up with that change.

“Broadcast engineers are taking the screwdrivers out of their pockets and sitting down as managers,” said Rudman. ... Especially in larger markets, he acknowledged, “they're part of the management team.”

“SBE Computerizes Operation”  
Aug. 15, 1985



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TECH TIPS

# Workplace Hazards for the RF Engineer

by Charles S. Fitch

A total of 5,559 fatal work injuries were recorded in the United States in 2003, the most recent year for which numbers are available, according to the Bureau of Labor Statistics. Don't let

yourself or a colleague be among this number in 2005.

Recently inspecting a particularly bad transmitter building during due diligence, it struck me that this toilet was probably the worst, most unhealthy working environment I had ever been

in. The quest for profit should stop when the working place becomes dangerous and unhealthy. But at this site I sensed a partnership of neglect and design. Obviously the engineering and management teams must have been conspiring to let affairs get to such a despi-

it would take the combined skills of housekeepers, renovators, roofers, painters, fumigators and trash haulers to make the place habitable for more than 5 minutes.

Their rebuttal to Mr. Fitch was, "What the h— is his problem? It's only a transmitter building, not the Taj Mahal."

I will concede that the Taj Mahal was built to hold the body of the ruler's beloved for eternity. Still, a transmitter



Fig. 1: This cored hole for a ground strap has been left unfilled. Hang a sign: 'Rodents Welcome.'



Fig. 2: This is the other end of the hole in Fig. 1. 'What goes in must come out...'



Fig. 3: A burned-out packaged high-voltage unit was abandoned so long ago that trees have grown around it. What sort of oil is left in this tub?

cable state.

After the inspection, and for about the twentieth time in my career, I went back to the hotel and completely disrobed in the foyer of my room. Using the plastic laundry bag as a container I placed *all* the clothes I had worn to this miserable transmitter building into it. I marked it Hazardous Material with a big orange indelible pen. Just the indelible aroma of that wretched place emanating from the fabric made this a distasteful exercise. After showering and changing I paid the bell captain \$50 to have them incinerated. (I really like full-service hotels.)

My confidential inspection report was circulated to the involved parties. The seller was irritated that I had spent 15 pages accurately and vividly describing the sty they were trying to sell us for millions of dollars and only five pages on the equipment and technical arrangement.

One of those 15 pages explained that

building must be clean and safe enough to spend at least half a day living there.

### Incoming!

A transmitter building need not be on a par with the high rollers' suite at the Luxor; and a few choice tidbits of old gear and historic station souvenirs can add charm. However, we did *not* need the fire danger of a room full of paper station logs dating from Marconi to 1980. We did *not* need an obstacle course comprising 30 pieces of Conelrad and EBS gear tossed randomly around the rooms (wake up! Conelrad is never coming back!), four full trashcans (atop one: a newspaper reporting on Bob Dole's presidential campaign) and animal droppings everywhere (including a collection of leftover feathers from choice meals obviously consumed by animals that considered this their condo).

Ah, yes, rodents. We probably should have known when the engineer "called

See HAZARDS, page 18 ▶

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# NEW! Optimod 8500 for HD Radio



Introducing the new Optimod 8500 for HD Radio! This top-of-the-Orban-line processor is the ideal choice for FM stations simultaneously transmitting iBiquity's HD Radio, Eureka 147, or a netcast. Independent processing for analog FM and digital radio is standard. Orban's state-of-the-art FM high-frequency limiting and clipping systems peak-limit the analog-FM output while a look-ahead limiter controls the digital radio output. The base sample rate is now 64 kHz, allowing the 8500 to offer 20 kHz audio bandwidth in the digital radio processing path. A built-in eight-second delay allows HD Radio broadcasters to bypass the delay in the iBiquity exciter and to use the 8500's stereo encoder and patented "Half-Cosine" composite limiter instead. This means that broadcasters won't have to compromise loudness of their analog channel to broadcast HD.

8500 List \$13,990.00

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**orban**

## Best-Selling Computer Recording Interface

Lexicon's Omega Studio is a complete computer recording system that includes an 8x4x2 USB interface/mixer, Cubase LE multitrack recording software, and Lexicon reverb plug-in. With the Omega you get 8 inputs assignable in pairs to 4 simultaneous record channels, 24-bit A/D converters, two mic-level XLR inputs with phantom power, preamps and TRS inserts, four 1/4" balanced TRS line inputs, and S/PDIF digital input. Steinberg's Cubase LE software lets you record up to 48 audio and 64 MIDI tracks, with full automation of volume, pan, mute and effects.



OMEGA List \$529.95

**LowestPrice only \$299.95!**

**lexicon**



## VoxPro Software Editor and Controller

Audion's VoxPro PC software system is an easy-to-use two-track recording and digital editing system for recording and editing voice-overs and phone conversations. VoxPro PC software uses a hardware USB or Serial-port controller (highly recommended) for fast recording/editing as well as on-air "Hot Key" playback.

VOXPROS Software\*\* List \$999  
VOXPROCU USB control List \$999

**LowestPrice@bswusa.com**  
OR CALL: 1-800-426-8434

# It's About Time!

**NEW!!**



## New Audio Time Manager from 25-Seven!!

Audio Time Manager (ATM) gives radio stations the power to shift live programming in real time without compromising sound quality. Squeeze more time (up to 6 minutes per hour) without audio artifacts or pitch change. On-air operations glide smoothly and undetectably between scheduled and breaking events - such as school closings, traffic updates, weather advisories, last minute promos, or additional advertising availabilities. By allowing you to delay the start of live programs and shorten their duration in real-time, ATM puts you in control of your broadcast schedule. A distinct improvement over previous time-based audio compression products, ATM does not remove important content, change pitch, damage inflection or create annoying artifacts; letting you maximize content while protecting your audio signature. Best of all, ATM is easy to use with simple three push-button operation. For ATM look no farther than BSW.

ATM List \$7,950.00

**LowestPrice@bswusa.com**  
OR CALL: 1-800-426-8434

**BSW & 25-Seven**

## Great On-Air Voice for Only \$199!!

The dbx 286A voice processor is an inexpensive way to get really great sounding vocals, with a studio quality mic preamp with phantom power, compressor, de-esser, and expander/gate. Balanced I/O, plus insert jack for outboard effects.

286A

List \$299.95

**LowestPrice only \$199!**

**dbx**



## AEQ Radio Console

The fully-loaded 12-channel BC312 is a surprisingly affordable, compact console suitable for a variety of applications from on-air to remotes. It offers the functions of more expensive consoles, in a downsized board.

### FEATURES:

- 4 mono mic/line inputs and 8 stereo line inputs
- Built-in telephone hybrid; 10+10W amp for studio monitors
- Stereo cue speakers; Routable talkback

BC312

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# Network Your Entire Facility and Save Money!!

Axia by Telos Systems is a modular audio system that uses standard Ethernet hardware to transport high-performance audio throughout your entire facility. A 100Base-T segment, using a standard CAT 6 cable, can carry 25 stereo channels of 48 kHz, 24-bit linear PCM audio in both directions. Axia's modular and scalable approach makes it incredibly flexible. For instance, you can make a mini-routing switcher for a simple way to share audio sources between two studios. Add a Router Selector to connect a production studio or a monitor in your central equipment room. Keep going to build a system to serve your entire plant. It's easy to set up and takes only a few hours to install. Call BSW for price quotes on Axia products.



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## New Marantz Field Flash Recorder!

It's here! The new Marantz PMD660 digital recorder is in BSW's warehouse ready for immediate delivery! Record hours of MP3 audio on a single Compact Flash card (or as high-quality WAV files) and transfer to your computer via USB. The PMD660 offers onboard stereo mics for on-the-spot recording, or use your own mics via two XLR inputs. Virtual tracks let you compare edits and provide interview segments of varying lengths.



PMD660 List \$649.99

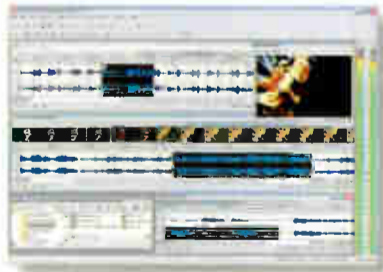
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Audio Studio is an affordable and easy-to-use two track editor loaded with features including; Simple editing and navigation; Drag-and-drop operations; Real-time nondestructive editing; Unlimited Undo/Redo. Over 30 built-in effects & processes; 10 band EQ; Time Compression; Real-time metering.



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### Broadcast Tech Tip # 248

When doing phone interviews, it always helps to use the right interface. It's also VERY helpful to have someone on the other end of the phone.

## MiniDisc Recorder in Stock at BSW

For critical MiniDisc recording and playback, Tascam's MD 350 rackmount deck is a proven performer. It offers all the features you need for your busy radio production studio, or on-air playback.

### FEATURES:

- Auto-Ready, Auto-Cue, pitch control
- Balanced XLR and unbalanced RCA I/O; digital S/PDIF I/O
- Computer keyboard port
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MD350

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The Radix DA1600 is a heavy duty distribution amp with 8 stereo or 16 mono balanced outputs (1x16 or 2x8 operation). Level control and selectable pads accommodate a wide range of input levels.

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\*\*Subject to availability

# Shortwave

► Continued from page 1

around the bands to ensure that they use the most optimal frequencies to reach their target audiences.

The 119 delegates met at the Marquis Reforma Hotel in Mexico City in February.

"It was the first time that this meeting, which is held jointly with members of the Arab States Broadcasting Union, has ever been held in Latin America," said Jeff White, general manager of WRMI Radio Miami International and chair of the event. White also served as

representative for the U.S. National Association of Shortwave Broadcasters at the meeting.

"It is also the first time that U.S. international shortwave broadcasters have organized an HFCC conference," said White. "As the U.S. is the largest user of shortwave spectrum, it only made sense for a U.S. organization to host the event."

Originally, the HFCC conference was to be held in Miami, where WRMI is based; however, "some of the Arab delegates were concerned that they might not be able to get U.S. visas, so we went to Mexico City instead," White said.

Without a central authority to

impose frequency allocations, one might expect the HFCC to dole out frequencies by lottery, seniority or some other rule-based process. Not so; in the real world of shortwave frequency allocation, everyone gets to make their own plans.

## Preferred plans

"Each of the stations devise their preferred allocation plan, selecting frequencies and times that maximize their chances of reaching their target audiences," said White. Those schedules are fed into a server that compiles and compares these allocations, collecting them into a global HFCC frequency master list. The list is then made avail-

able to delegates for review.

Of course, there are instances when two broadcasters want the same frequency, or have unintentionally selected adjacent channels that could interfere with each other.

The HFCC's database program is designed to spot such "collisions" and to alert the delegates about them.

"When collisions occur, it is up to the delegations in question to get together and sort the issue out," said White. "Sometimes the problem can be solved by one station choosing another time or frequency. Other times, a simple change in one broadcaster's antenna heading can allow both stations to use the same frequency if they are broadcasting to different regions of the world."

So happens if neither delegation will budge? Nothing.

"There are lots of collisions that are never resolved because neither broadcaster wants to give up the frequency," said White. "Sometimes they interfere with each other. Sometimes both of their signals get through at different times."

The HFCC generally succeeds in allocating the world's shortwave radio frequencies — no small feat. White credits the professionalism of HFCC's member engineers for that success.

## No politics

"There are really no politics involved when these people get together," he said. "You will see U.S. engineers working with Iranians, the Chinese working with the Russians. Politics really do not matter at HFCC meetings, because the delegates generally try to find allocations that work for everyone."

This said, not everyone attends the HFCC meetings. A case in point is Radio Habana Cuba.

"Despite the fact that we invite every country to these meetings without exception, Cuba does not attend," said White. "However, chances are that they use the HFCC's allocation data to decide which frequencies to use. Otherwise, they'd be in danger of not being heard due to interference."

And the danger of interference is actually on the increase. According to White, demand for shortwave channels has never been higher.

"Statistics from the HFCC show that there hasn't been a lessening in frequency demand, even though some government broadcasters have cut back their hours," said White.

"In fact, there is a definite shortage in the allocated shortwave radio bands. This is why some countries' telecommunications authorities allow their broadcasters to use 'out of band' frequencies, as long as they don't interfere with the spectrum's approved users."

And new technologies, like the Digital Radio Mondiale system for digital short-, medium- and long-wave broadcasting, only add to the concerns.

"Adding DRM broadcasts will only worsen the shortage, since broadcasters aren't going to preempt their regular analog channels for these tests," he said. "Until DRM radios become widely used, this will remain the case; broadcasters are not willing to sacrifice their analog audiences."

Given this, the HFCC's success in cooperatively allocating shortwave radio frequencies is likely to become more important. ●

# Hazards

► Continued from page 16

ahead" before we left on the inspection, saying, "The phone bell drives most of the vermin out."

The outside lighting was dark, all the bulbs having burned out. To replace them we would have needed a ladder; but no one was sure where the ladder had gone. Nor did they know where to find the shop vac or a mop (although perhaps these folks didn't know what such implements were and so could not recognize them if found).

I asked the sellers during a conference call whether they would let their children enter this building. "H— no, it's too dangerous." I asked if they would show the place with pride to anyone that they considered important. "Are you kidding?"

A craftsman is known by his work and his tools. Enough said.

Make your transmitter site safe and healthy to occupy. Let's enumerate common dangers and tips on how to get rid of a few.

**Health** — The dangers include mountains of mouse droppings (think hanta virus); rodents, snakes, wasps, bees and mosquitoes (think West Nile virus encephalitis or fever), filthy or non-functional bathrooms, and so on.

Living pests need an environment in which to prosper. Why give it to them? Clean the place so that you could eat pizza off the floor, then seal the building and ATUs against flying and four-legged pests. Get rid of little standing pools of water where mosquitoes breed. Clean the toilet at least once a year whether it needs it or not.

Isn't it about time you threw out the old snow tires from the general manager's '57 Chevy that have been sitting in the transmitter yard, maybe since 1957? They're prime breeding ground for insects. Aren't you tired of tripping over them, even if you *have* gotten used to a swarm of bugs that greet you in the August heat?

**Safety** — Poor electrical wiring or personnel protection from shock are hazards here. (Have you seen interlocks cheated and covers removed? Hey, where are those covers, anyway?) Familiarize yourself with the National Electrical Code; get your electric plant safety-oriented.

Also of concern: broken glass, rusty sharp objects, implosion dangers, buried and/or abandoned oil tanks, beryllium dust from power tubes (why are there 30 duds sitting around if you know they're bad?), PCBs in capacitors and transformers, oil vapors, excessive cold or damp, excessive heat, excessive humidity, dirty air filters, air-borne dust and crap, unmarked hazards such as chemicals or solvents with illegible labels — the list continues.

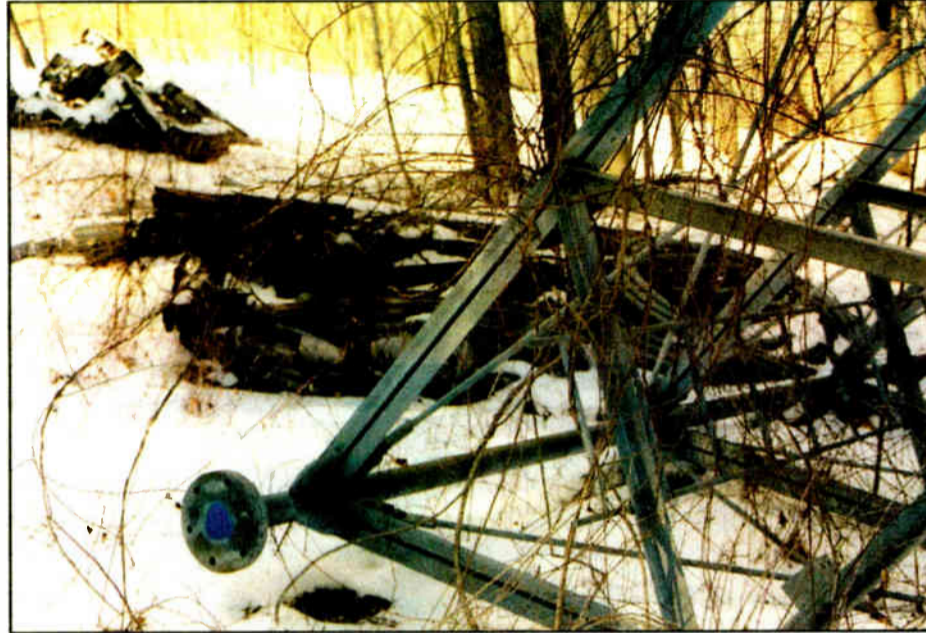


Fig. 4: Material left over at an abandoned tower site is overgrown with brush.

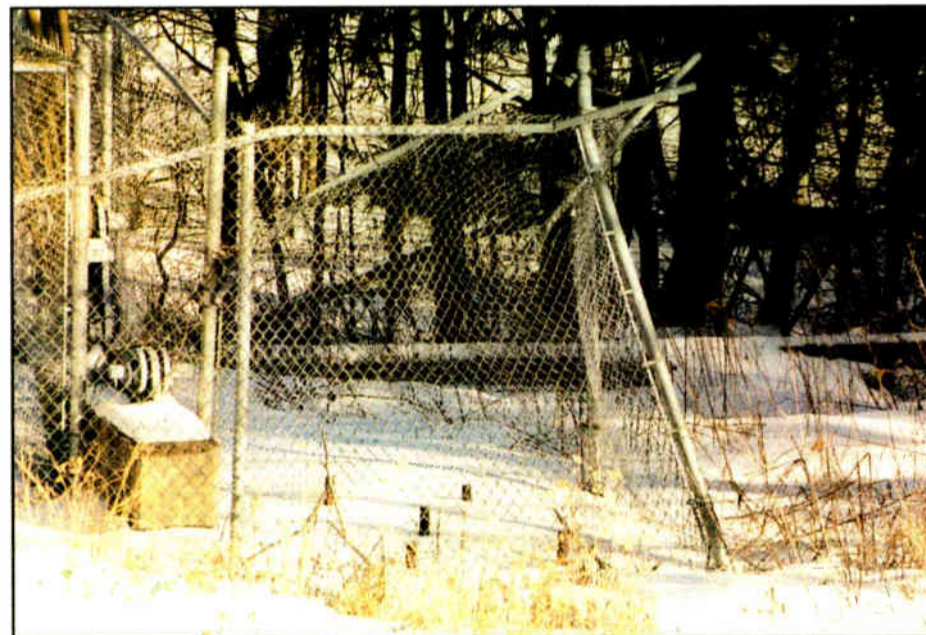


Fig. 5: This broken-down fence is at the anchor point of a guy system. Would this be acceptable to the insurance company?

**Specific fire danger** — Address fire hazards such as old log sheets, ancient wood furniture, insufficient or blocked fire exits, no fire extinguishers (you need A, B, C type as a minimum), no fire alarms, poor or non-existent lighting for emergency entrance/exit, and needed maintenance work such as repairing leaky roofs.

Make sure the local fire department knows your site is used by the radio station, and also how to reach you, enter the property (some stations have strange easements and driveway arrangements) and open the gate. A simple solution is to install a fire department lock in series with your lock on the chain. Also help the fire department and yourself by cutting the flora down to ground level.

It can take years for a site to degrade into deplorable condition. If this describes your site, know that it will take time to eradicate the problems. But it will never be safe and healthy unless you set goals, implement a schedule and invest the money and time to get it done. Otherwise the degradation is happening on your watch — and you may bear some or all of the fault when someone, probably you, gets hurt.

As Pogo says, "I have the met the enemy and it is us."

*Charles S. Fuch, W2IPI, is a registered professional consultant engineer, a member of the AFCCE, a senior member of the SBE, lifetime CPBE, licensed electrical contractor, former station owner and former DoFe of WTIC(TV) and WSH(TV).* ●

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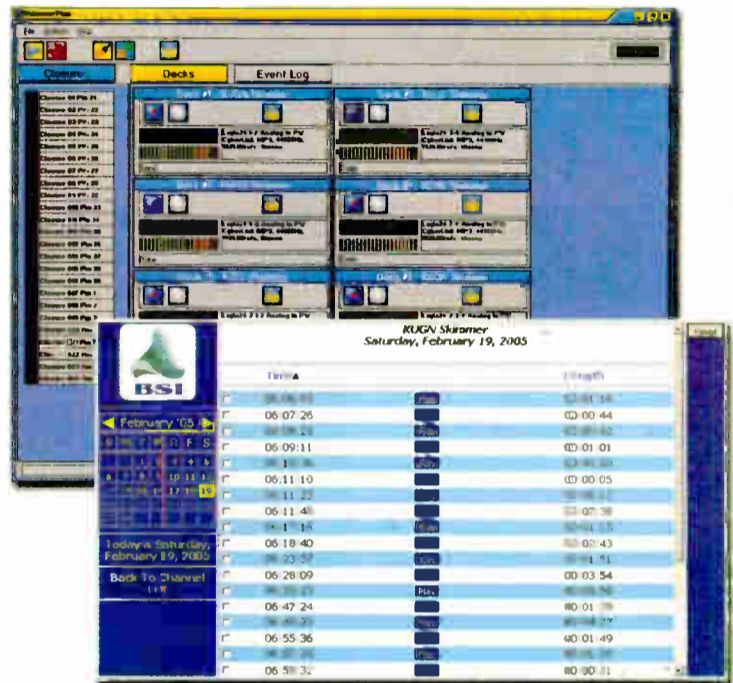
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## FIRST PERSON

# Major-Market Radio in the 1960s

*Doug Fearn Recalls What It Was Like To Join WPEN as an Engineer in 1966*

by Doug Fearn

I would never recommend returning to the days of tape cartridges, turntables and reel-to-reel machines. Still, there are good reasons to document the way things were. My own experience extends to the 1960s.

My first job in radio was at WPEN(AM) in Philadelphia in 1966 as a "summer relief" engineer. I was 17. That wasn't my first experience in broadcasting; my high school had a 10-watt FM station, WHHS, which had gone on the air in 1949 with one of the first licenses issued to a high school.

Our technical advisor at WHHS was Charlie Higgins, an alumnus of the school and an engineer at WCAU(AM), the CBS O&O station in Philadelphia. He insisted that we run WHHS as if it were the CBS radio network. Student engineers ran the board and announcers stayed in the studio.

Actually, that model described all of major-market radio in the 1960s.

Charlie demanded that we operated to the same standards as the best of commercial radio; and we did our best to be professional. A benefit was that many of us became qualified to step into radio engineering jobs. Over the summer between ninth and tenth grades, I passed the test for the FCC First Class Radiotelephone license, which was absolutely necessary to be considered for any broadcast engineering job.

During Christmas break in my senior year of high school, I made the rounds of several stations in Philadelphia: WCAU, WFIL, WIP, WPEN and WRCV (now KYW). I simply walked into each station and said I wanted to talk with the chief engineer about a summer relief engineering job. Remarkably, every CE talked with me, and most showed me their facilities.

**Charlie told me he had the least seniority on the engineering staff of 13. I was the first person hired after him — and he had been hired in 1949, 17 years earlier.**

It was hard to tell at the time of the interviews if I had any chance of getting a job; but within a couple of weeks, every station called me back and offered a position.

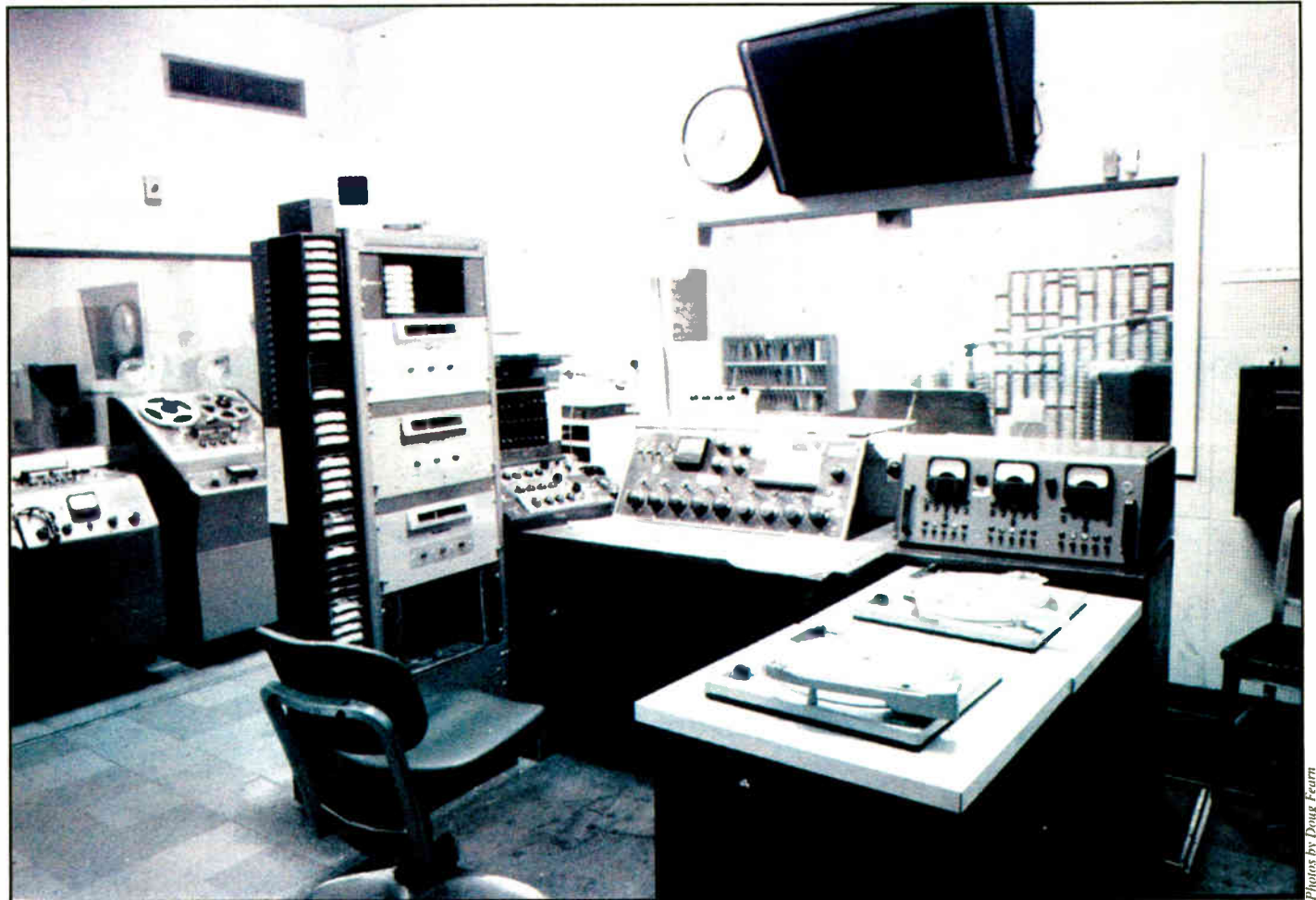
Although it wasn't the most successful station, nor the most sophisticated, I choose WPEN because I was intrigued by their studios.

## Long weekends

The station went on the air in 1926 but the building at 22nd and Walnut Streets in Center City became the WPEN studios in the late 1940s. The entire first floor, except for the lobby, was devoted to one huge studio, designed for an afternoon teen dance show but later used for a live-audience talk show.

The second floor held offices; the third

floor had four control rooms and six studios, plus the music library and the newsroom.



The WPEN Master Control Room as it appeared in the early 1970s. Studio B is in front, and the left window looks out into the hallway.

Although I don't think this entered into my decision to work there, it is ironic that the first crystal set I built as an eight-year-old received only WPEN.

The chief engineer was Charlie Burtis, who had been with the station from the beginning. He asked me if I could work

full-time, starting right away, because one of their engineers had died recently. I told him I wanted just to work for the summer. He asked if I could work weekends starting that week, and I happily agreed.

My shift would be 5 p.m. to 2 a.m., with an hour for lunch. I didn't know it initially, but "weekend" meant Friday, Saturday and Sunday. My salary was \$2.38 per hour, later retroactively raised to \$3.38.

I arrived at 4:30 and told the ancient woman at the antiquated switchboard (with real plugs and jacks) that I was a new employee. She looked at me skeptically, made a call and buzzed open the door that lead up the stairs. I met Burtis on the second floor, filled in some paperwork and was issued keys for the doors. Then I was taken up to the third floor and Master Control.

This station was built for public tours, and every studio had large soundproof windows looking in from the hallway. MCR was centrally located in the studio complex and quite spacious.

I was introduced to Charlie Fritz (later to be CE), who would show me the oper-

modified to provide many more inputs. Even the master fader was replaced with another input.

To the right of the console was the switcher, a device I had heard about but never used. There were three channels, which fed AM, FM and the disc-cutting lathe in one of the production studios. Each channel could be assigned to any of the control rooms. The switcher was a maze of buttons, red and green tally lights and VU meters.

ation. The CE left and I watched as Charlie did all the things I was accustomed to doing: cueing records, playing tape cartridges and generally interacting with the air personalities and newsmen. It seemed like the grown-up version of what we did at WHHS.

Charlie told me he was glad they'd hired me, since he had the least seniority on the engineering staff of 13. I was the first person hired after him — and he had been hired in 1949, 17 years earlier.

I watched as the 5 o'clock network news came in from NBC, followed by five minutes of local news. The station also carried Mutual News on the half hour.

Local news always had at least one "actuality," a short segment of audio from the field or over the phone, recorded on reel-to-reel tape. A few minutes before the newscast, the newsmen would slap a 7-inch reel on the counter by the MCR door, with a cue sheet tucked into the reel flanges. My first duty that day was to cue the tape up on one of the four Ampex 350 tape machines in the room.

We had a similar machine at WHHS, so it was routine for me. What we didn't have at WHHS was remote controls for the machine. To the left of the console was a bank of Ampex remote control panels, some of which had different button layouts than the others.

The console in MCR (and all the other control rooms) were made by RCA. This one was a BC-12, somewhat newer than the old 76-series consoles in most of the rooms. The MCR console was heavily

At WHHS the two turntables (16-inch RCA) were on the left, but at WPEN they were on the right. That looked awkward. The turntables were made by Fairchild and had a motor in the base large enough to run a bandsaw. It went into a transmission about the same size as the one in my VW beetle. These turntables took several revolutions to get up to speed and stabilize, so all records had to be slip-cued.

A rack of three Collins (ATC) cart machines sat to the left of the operator position. All commercials were played from cart, but very little else. Music came from turntables only.

## Platters and carts

The cart machines went through an automatic switcher and into one input on the board. It was difficult to make a smooth segue between carts, but that was seldom required.

Directly in back of the operator was a floor-to-ceiling rack for tape cartridges. The rest of the back wall was taken up by four built-in racks, loaded with equipment. Much of the space in two racks was occupied by a patch panel.

Other equipment included a Hewlett-Packard audio oscillator, the CBS Audimax processor, two Ampex tape machines, a tape delay machine for phone calls and many trays of microphone preamplifiers and line amplifiers. A huge blower in the ceiling exhausted all the heat up to the roof.

There was not a single transistor in the  
See WPEN, page 21 ►

# WPEN

► Continued from page 20  
entire building. The only solid-state devices were selenium rectifiers that provided DC for the switcher relays and lights.

The wall to the main hallway was one large glass window, and along that window were two more Ampexes and an amazing machine that provided a hint of echo to the main program channel.

The Surround Sound machine had a continuous loop of tape that went around a metal wheel about 14 inches in diameter. This machine — designed primarily for Hollywood film use, to simulate various acoustic environments — had a record head on a moveable arm; it could be positioned anywhere around the wheel to provide up to several seconds of delay. There were three playback heads along the bottom, and the electronics panel had numerous controls to adjust the levels of each head, as well as equalization and recirculation.

**There was not a single transistor in the entire building. The only solid-state devices were selenium rectifiers that provided DC for the switcher relays and lights.**

The reverb level was barely noticeable on everything except the records. As soon as the key switch for either turntable was flipped to the ON position, a relay kicked in to increase the reverb level. For that reason, the turntable faders were left up (after cueing, of course) but the key was off until the record was released.

### Ring downs

To the left of the RCA console was an in-house telephone system that never failed to amaze or amuse me. A beautiful oak cabinet held rows of key switches. Along the top were black metal discs called "ring downs" that dropped when a line rang, showing a shiny brass interior disc. Every studio, plus the engineering shop and both AM and FM transmitter sites, had dedicated lines that came into the phone system.

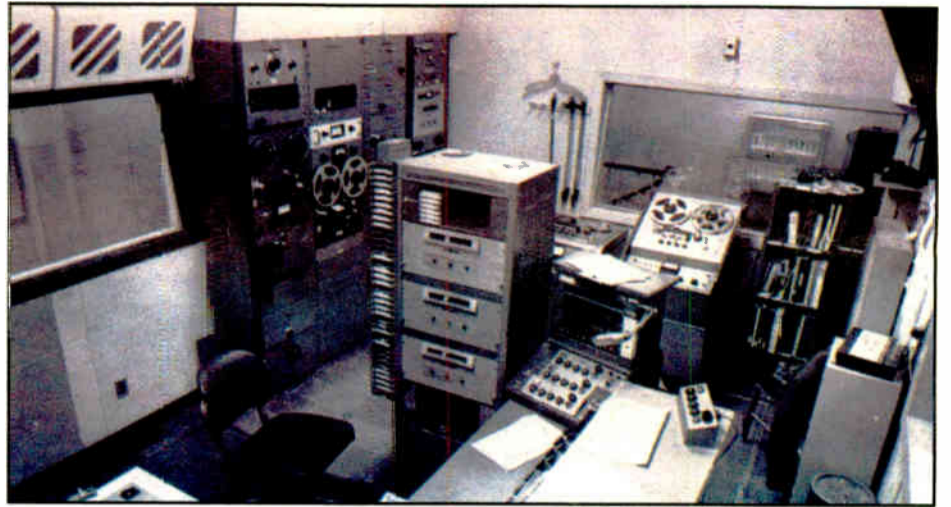
Any combination of phones could be patched together with the banks of key switches to provide instant connection. Up to four separate "networks" could be configured. The system ran on batteries (huge dry cells) and included a hand-cranked generator for ring voltage. Regular phone handsets were used in each location. The transmitter phones, however, looked like regular rotary dial desk phones except that the dial was replaced with a hand-cranked generator.

The station had a master clock system made by Western Union that was reset each hour by a signal sent to all clocks from the WU office. The clocks were mechanical, wind-up types, with large

dry cells to power the winding mechanism. The clocks reset at the top of the hour — which was unfortunate because they would often be several seconds off when you needed the greatest accuracy to meet the network. After a while, you got to know how far off each clock was and made the necessary mental corrections.

The floors of the control rooms were elevated, with wiring troughs underneath. The walls were perforated Transite. Ceilings were very high, at least 12 feet in most rooms.

Next time, the rest of WPEN's studios. *Doug Fearn is the owner of D.W. Fearn, a pro audio equipment manufacturer; he was chief engineer and operations manager of WKSZ(FM) in Philadelphia for a decade. Although out of radio, he says he still reads every issue of Radio World.*



Another view of the WPEN Master Control Room, circa 1972. The Surround Sound reverb machine and the cart rack had been removed by the time this was taken, and the Fairchild 16-inch turntables replaced with Gates 12-inch.

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# Phase 1 Over for Romanian Upgrade

by Bernd Trutenau

The Romanian state-owned transmitter network operator has completed the first phase of a multiyear modernization project a head of schedule.

The phase, which ensured full radio coverage throughout Romania, was completed in 20 months instead of the anticipated four years or more; Harris said it dedicated additional engineering and technical resources in order to establish nationwide coverage

er cost, the company said.

Radiocomunicații was established in 1991 as the result of a reorganization of the Romanian broadcast organization, and it converted to a limited company in 1998. It employs 2,445 people.

## Management systems

Harris supplied radio broadcast transmission systems for approximately 90 sites. It provided microwave links and centralized network management systems, along with engineering, installation and commissioning services.

Among the long- and medium-wave equipment delivered by Harris were eight DX 200 units, of which six operate as combined outlets at 400 kW.

Orțișoara, near Timișoara, is a new site built for multiple DX 200 installations, and now serves Radio Timișoara, a regional station of the public broadcaster SRR.

Cultural, Radio România Muzical "George Enescu," Radio România Tinereț and Antena Satelor.

Radio România Actualități airs on long and medium wave. Radio România Cultural has been transmitting since November 2004 on a new, high-power CCIR FM network.

Radio România Muzical "George Enescu" is a 24-hour classical music program.

The SRR flagship for the younger generation, Radio România Tinereț, is available via the Internet. Antena Satelor, originally a regional program for southeastern Romania, began medium-wave broadcasts to other parts of the country in November 2004.

In addition, SRR operates eight regional stations, many of which target ethnic minorities, including Hungarian and German communities.

Radio Târgu Mureș, for example, broadcasts seven hours a day in Hungarian.

New local operations have opened in recent months, like Radio Sighet, a branch of Radio Cluj in the north of the country.



Harris high-power AM equipment in the city of Jucu.

The goal of the \$85 million project is to replace outdated transmitter equipment that has been in service for decades, some since the end of World War II.

Harris Corp., selected as the prime supplier for the project in 2001, said it completed phase one of the three-phase project two years ahead of schedule. It described the project as the first phase the world's largest-ever radio modernization program.

before the November 2004 Romanian elections.

Until now, the aging broadcast technology in the S.N. Radiocomunicații S.A. network could only reach about 40 percent of the 22.3 million Romanians, according to the supplier. With the completion of the radio phase of the modernization project, the country now enjoys nearly 100 percent radio coverage at a higher fidelity and low-

**O**ur previous system employed Eastern technology and frequency standards that were of poor quality and frequently unreliable. Our nationwide reception is now excellent, and we've harmonized our radio frequency bands with Western standards.

— Gabriel Grecu, Radiocomunicații

In autumn 2004, two DX 200 units replaced the Boldur transmitter near Lugoj. Apart from carrying SRR programs, this facility is leased by the U.S.-funded Radio Liberty for transmission to other Balkan countries.

Gabriel Grecu, president of Radiocomunicații, said, "Our previous system employed Eastern technology and frequency standards that were of poor quality and frequently unreliable. Our nationwide reception is now excellent, and we've harmonized our radio frequency bands with Western standards."

"We are even looking into digital audio broadcasting (DAB) for the Bucharest area," he said.

Earlier, the central longwave transmission site in Bod, near Brașov, received a major upgrade. A 1200 kW transmitter installed in 1967 had been operating with less than two-tenths its original power. A new solid-state Harris DX 200 unit provides a strong longwave signal from Bod to all of Romania.

In addition to high-power FM transmitters in the OIRT FM band (66 to 74 MHz), Romania has had a densely developed network of medium-wave transmitters, ranging from 1 kW to 1.5 MW.

Most of these came from the Czech firm Tesla and from Soviet manufacturers during the 1960s, 1970s and 1980s.

While many neighboring countries have started to phase out medium-wave broadcasts, SRR decided to retain its medium-wave coverage and guaranteed Radiocomunicații a long-term lease for both FM and AM facilities.

SRR is the primary customer of Radiocomunicații. The broadcaster produces five nationwide programs: Radio România Actualități, Radio România

Last September it started broadcasting two hours of daily local programming.

As in other parts of Eastern Europe, where FM broadcasting was based on the OIRT FM band, Radiocomunicații had to completely replace its network with new 87.6 to 108 MHz FM transmitters.

## Strategic sites

Rohde & Schwarz provided a large number of the new FM transmitters.

With the mountainous terrain posing a challenge for FM coverage, Radiocomunicații decided to use a number of high-power systems located at strategic sites on mountaintops, supplemented by medium-wave transmitters in remote valleys.

"With our new network, we are now achieving an FM coverage of 99 percent for România Actualități and 93 percent for România Cultural," Grecu said.

Radiocomunicații officials say they are determined to continue with its dual-band strategy. With 100 percent coverage for România Actualități on long- and medium-wave, the AM band continues to play an important role, mainly because much of the Romanian population lives in rural areas and the older generation prefers to listen to AM.

The AM transmitters can also reach Romanians living in other European countries, according to Harris.

Part of the installation was Orban Optimod audio processors at all major FM and AM sites. The order included 105 Orban Optimod-FM 2200Ds and 37 Optimod-AM 9200Ds.

Bernd Trutenau is a freelance media journalist based in Vilnius, Lithuania. Contact him via e-mail at btrutenau@delfi.lt.

## CC Catches 22 in Philly

Philadelphia radio is seeing a lot of shiny new studios these days.

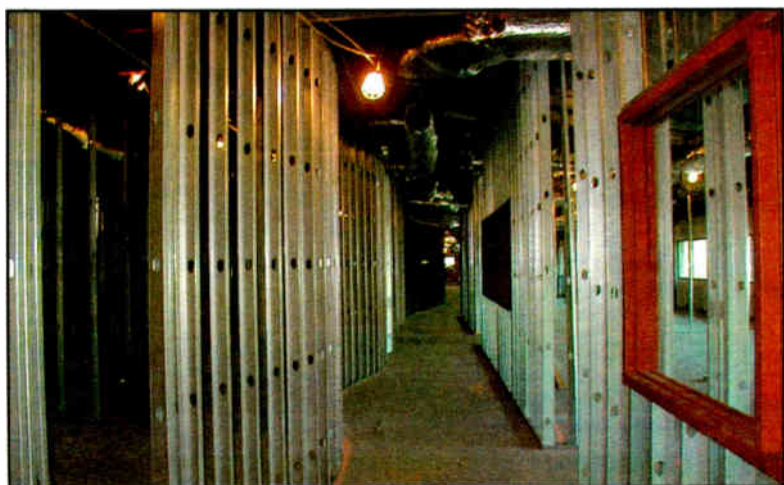
Six Clear Channel radio stations will soon move into a new 22-studio facility in Bala Cynwyd, near Philadelphia.

Regional Vice President of Engineering Michael Guidotti tells us building construction should be done by the end of May, with move-in around July 4. The stations involved are FMs WDAS, WSNI, WJJZ, WIOQ and WUSL as well as WDAS(AM); they are now spread over three locations. The 65,000-square-foot facility also will be home to local offices of Clear Channel Entertainment.

The consolidation project includes a Wheatstone Bridge/Generation system with six G4/24 control surfaces, plus 11 G4/12 and five G4/8 control surfaces, and a Wheatstone Bridge router system with three router frames in the rack room and 18 satellite frames. Studio furniture is by Studio Technology (which is headquartered just up the road). Also to be installed is a new Prophet Systems digital management system, and Moseley Starlinks as STLs.

Guidotti said the technical team is himself, Kevin Olson, John Faiss, Charles Benner and Jamie Tresch.

Also new in Philadelphia is the home of WXPN(FM), covered in RW's March 16 issue.



Future Hallway at Clear Channel Philadelphia



**International Datacasting** said it won a \$2.2 million contract from **NPR** to add a streaming audio subsystem to the **PRSS ContentDepot** distribution system. **IDC** earlier won a contract to provide the file transfer infrastructure.

The new contract is for a system to deliver dozens of channels of live streaming audio as hundreds of programs in the form of files. **IDC** expects to add some of these features into its product line as well. It said a key enhancement is the ability to inject metadata, including **PAD**. Info can be used for more accurate programming and eventually for text displays in **HD Radio**.

**IDC** worked with **NPR's** system integrator **Siemens Business Services Media**...

**WNPR/Connecticut Public Radio** has a new digital facility. The **NPR** affiliate shares a new broadcast operations center with **Connecticut Public Television** in a renovated six-story, 55,000-square-foot building in **Hartford, Ct.** **A.F. Associates**, part of **Ascent Media Network Services**, did the design and build. **Haig Papasian** is **Connecticut Public Broadcasting VP** of operations and engineering...

**Radio Systems** was picked to provide 20 Millennium broadcast consoles to **Learfield Communications** for the relocation of its Sports Network Operations center. Construction of a facility is underway; it will be operational for the college football season. **Learfield** handles multimedia and marketing for colleges and universities. **Charlie Peters** is **VP** of engineering for its **GM satellite** division...

**Studio Technologies** Announcer's Consoles for the **CBS Radio/Westwood One** engineering staff at the **Super Bowl**. Broadcast Engineer **Raul Velez** was in **Jacksonville** with two Model 210 and two Model 220 Announcer's Consoles. Also, **ATK-Versacom** managed audio production for the **Fox** telecast; it used three Model 230 Announcer's Consoles.

**Wheatstone** won the business for eight digital mixers and a **Bridge router** with satellite cage for the **Cumulus Media Riverwalk** project in **Shreveport, La.** The **D-75 Digital Audio Mixers** and routing system will be linked via fiber optic cable and centered in the transmission room. Nine studios will get **Wheatstone Preference** furniture and pre-wiring. Four existing stations plus a new one will be located at the **Louisiana Riverwalk** in a 10,000-square-foot radio center.


Separately, **Wheatstone** sold a **Generation/Bridge** system for the **Family Life Communications** facility in **Tucson, Ariz.**, including three **Gen-4 Digital Control Surfaces**, two **Bridge routers**, five rackmount router controllers and other services.

And the supplier said **Clear Channel Philadelphia** ordered equipment to equip

a six-station facility with a **Bridge/Generation** system. The facility on **Presidential Blvd.** in **Bala Cynwyd** is a consolidation that includes a buildout of 22 **Generation-4** control surfaces, one  
See **BUYING**, page 29 ▶



**Studio Technologies** Announcer's Consoles were used for **Super Bowl** audio coverage on **CBS Radio/Westwood One** as well as **Fox TV**.



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# Will the Courts Waive the Flag?

*The FCC's Broadcast Flag for DTV Is Under Siege. The Outcome Will Weigh on Digital Radio*

by Skip Pizzi

This column has previously considered the so-called "Broadcast Flag" scheme that will soon go into effect for digital television, as a possible precursor to similar regulations that might be applied to digital radio (RW, Dec. 15, 2004, and Jan. 5, 2005). You may recall that this process is intended to restrict consumers' ability for, in the FCC's words, "mass, indiscriminate redistribution" of content received via digital television broadcasts, without the requirement for broadcasters to encrypt the transmission of these signals.

In other words, DTV can be broadcast "in the clear," but once received, consumer equipment must apply an FCC-approved form of content protection to all flagged content, and downstream consumer equipment must observe rules that allow this content to be decrypted only under approved conditions. These rules are set to become effective on July 1, after which no DTV receivers or downstream consumer equipment can be sold in the United States without observing the Broadcast Flag rules.

The Hollywood movie studios, as represented by their trade association, the Motion Picture Association of America, has driven this process through the FCC, with the support of many broadcasters, who feel that without it they will be denied future access to the most desirable content for DTV broadcast, and that this content would then migrate to inherently more secure digital cable and satellite television distribution.

The FCC has taken great pains to point out that acceptable conditions for decryption of flagged content include all fair-use rights of consumers to view, record, copy and replay content — no different than those that exist for analog TV today — and that the Broadcast Flag process is not really content protection *per se*, but simply a "speed-bump" constraint to peer-to-peer or Web redistribution of content received via DTV. Others hold different views on the Broadcast Flag, however, and this debate has recently moved to the courts.

Meanwhile, the Recording Industry Association of America has made comments to the FCC in its NOI on digital radio content protection, supporting a scheme similar to the DTV Broadcast Flag for application to published music content broadcast via HD Radio. Thus the outcome of the current court case on the DTV Broadcast Flag, and any subsequent actions, could have considerable impact on digital radio's future.

## The lawsuit

In January, a number of non-profit organizations filed suit against the FCC over the DTV Broadcast Flag. The groups included consumer advocates and library trade associations (Public Knowledge, the Electronic Frontier Foundation, Consumers Union, Consumer Foundation of America, the American Library Association, Association of Research Libraries, American Association of Law Libraries, Medical Library Association and Special Libraries Association). The venue for the case was the District of Columbia

Circuit of the U.S. Court of Appeals.

In their case, these groups made the point that the Broadcast Flag process effectively will go far beyond the professed purpose of preventing the (already illegal) Internet redistribution of content, and it would unavoidably impact consumers' and others' content usage rights and convenience. They contended that the consumer usage environment for Broadcast Flag-enabled DTV will be substantially different than for analog TV, and that significant interoperability problems may be created by the Broadcast Flag system.

From a legal perspective, they challenged the FCC's jurisdiction to enact a scheme that mandates such broad product design rules for consumer equipment, as well as one that, in effect, sets new copyright policy. They also felt that, even if the FCC had such jurisdiction, the action was arbitrary and capricious (and therefore illegal), and unwarranted in the face of unsubstantiated harm to the content companies. Further, even if such harm existed, the Broadcast Flag would not effectively solve the problem anyway.

## An initial judgment

Oral arguments at the Court of Appeals were heard in February, at which the majority of the three-judge panel appeared strongly sympathetic to the plaintiffs' case. The judges effectively roasted the FCC's counsel defense of the flag, with two of them openly chastising the commission for overstepping its jurisdiction by enacting the flag without explicit congressional mandate. The FCC replied that they felt this authority came with the commission's order from Congress to manage the DTV transition, but the judges seemed to disagree.

Notwithstanding the merits of the plaintiffs' case, however, the issue of their "standing" loomed large to the judges, as well. This point of law reflects the basic need for any plaintiff to present to the court's satisfaction a specific harm that the plaintiff would suffer. The court pointed out that all of the plaintiffs represented members who would not be harmed any more than the general public by the Broadcast Flag, therefore the plaintiffs' standing to make the appeal was questioned. If the plaintiffs had represented a group that would be specifically or uniquely impacted by the FCC's action in the case (such as a consumer equipment manufacturer), such standing would not be questioned; but no such entity was among the plaintiffs.

Such a clear statement of standing by the plaintiffs is a prerequisite for the merits of the case to be considered, so the appeal could not proceed without the question of standing being settled first. Somewhat surprisingly, on March 15 the court quite promptly issued (by a 2-1 ruling) what amounted to an interim decision on the case, calling for the plaintiffs to better articulate their standing. (The dissenting judge felt that the standing issue warranted dismissal of the case.)

Some expert observers concluded

that the court was providing the plaintiffs with a roadmap for showing standing in the absence of direct harm, because they feel so strongly on the merits of the case and want to rule on it. Others feel that the court is showing understanding for the reluctance of any party with true standing to come forward, given the chilled context that a maker of consumer media-consumption equipment is confronted with in challenging the content community that creates and delivers the products that its devices consume.

Overall these oddsmakers are therefore expecting this court to ultimately reject the Broadcast Flag and force the FCC to rescind these rules. Meanwhile, the consumer electronics industry still faces the July 1 deadline for updating its product inventory for Broadcast Flag support, and until a ruling to the contrary is issued, manufacturers have to assume that the existing rules will go into effect as scheduled.

Given the timetable as understood at press time, however, both the plaintiffs and the FCC will have responded with their briefs requested by the interim ruling by now, and a final decision could be rendered prior to (or soon after) the July 1 date.

## Next steps

If the flag rules are indeed rejected by the appeals court, the FCC and/or MPAA could pursue the case further in the courts, but meanwhile Capitol Hill observers have reported that the MPAA is already lobbying Congress to add

## The Big Picture



Photo: Gary Hayes, BBC

by Skip Pizzi

language to a currently pending bill on the DTV transition that would explicitly grant the FCC jurisdiction to mandate the Broadcast Flag. This issue is therefore currently at play in all three branches of the U.S. federal government.

While there are certainly differences between digital television and radio, when it comes to the issue of Internet redistribution of copyrighted digital content, the music industry is the poster child, so digital radio will not escape the spotlight of association with it.

The stakes and interest levels on this issue in both the public and private sectors are sufficiently high that it will not soon fade from the radar, and the scope of those screens will certainly include digital radio. As the flag flies for DTV, so will it eventually unfurl o'er the land of IBOC.

Skip Pizzi is contributing editor of *Radio World*. 🌐

## NAB Presidents

*Quick, name any three presidents of the National Association of Broadcasters prior to Eddie Fritts.*

*You might be forgiven for not knowing, given that Fritts, now in his last term, has held the job since the first Reagan administration, and that his predecessor took the post when LBJ was in the White House.*

*Here's the list, courtesy of NAB:*

Eugene F. McDonald  
1925



Neville Miller

Frank W. Elliott  
1925-26

Earle E. Anthony  
1926-28

William S. Hedges  
1928-30

Walter J. Damm  
1930-31



Harold E. Fellows

Harry Shaw  
1931-32

Alfred J. McCosker  
1932-34

Truman Ward  
1934-35

Leo J. Fitzpatrick  
1935-36



LeRoy Collins

Charles W. Myers  
1936-37

John Elmer  
1937-38

Mark Ethridge  
1938



Vincent T. Wasilewski

Neville Miller  
1938-44

Harold J. Ryan  
1944-45

Justin Miller  
1945-1951

Harold E. Fellows  
1951-1960

LeRoy Collins  
1961-64

Vincent T. Wasilewski  
1965-82



Edward O. Fritts

Edward O. Fritts  
1982-present



# Buying

► Continued from page 23  
central Bridge system with 17 satellite frames and four main Bridge frames. ...

**Dalet Digital Media Systems** said **Bahrain Radio** chose its radio products to digitalize broadcast operations. Managed by the kingdom's government, Bahrain Radio is the only radio broadcaster in the country. The broadcast distributor was **Professional Systems Corp.** ...

The Southwest sales office of **SCMS** said **KGZ(FM)** chose a **Dielectric Communications DCR-M10CFE** antenna for its transmission system. The station is using a new 695-foot **Valmont/Pirot** tower, the antenna and Dielectric 3-1/8-inch Flexline air dielectric coax cable. **Towers for Jesus** is erecting the tower. ...

**Lawo** was hired by **Host Broadcast Services Consulting** to supply audio services for the 2006 FIFA World Cup Germany. It will provide the audio services from 12 German stadiums to a Master Control Room at the International Broadcast Center in Munich. From there coverage is distributed worldwide. ...

**Buckley Broadcasting's WOR(AM)** hired **Creative Studio Solutions** for system integration and engineering services for 11 new studios in New York City. **CSS** integrated the **Telos Axia Router/Console System** into the studio infrastructure. This is the largest installation of the Axia System to date. **CSS** also was hired for studio wiring, equipment installation and engineering documentation using **Star Draw** software.

**WOR's** new studio location is near the southern tip of Manhattan; the station had been located in the Times Square area. **Tom Ray** is **WOR** corporate director of engineering. ...

**Harris** said **NPR** affiliate **WJCT(FM)** in Jacksonville purchased an HD Radio transmission package including a **Z16HDS 3.5 kW** transmitter operating in **Harris' Split-Level Combining** method plus an existing analog transmitter, **Flexstar HD Radio** products and **NeuStar HD/FM** codec processors.

**Garrett Wood** is broadcast engineer at **WJCT-FM/TV**. ...

**Audemat-Aztec** said **Clear Channel** ordered 68 of its **Goldeneagle HD** modulation monitors — 49 FM and 14 AM. The manufacturer said. Retail value is \$553,000; the contract price was not disclosed. The units have an added spectrum analyzer display. ...

**Broadcast Electronics** delivered an HD Radio package to **Oregon Public Broadcasting** in preparation for **Tomorrow Radio**. **OPB** Director of Engineering **Everett Helm** said, "Tomorrow Radio is central to our plans for HD Radio and it was a major part of the RFP for this project."

Separately, **BE** said it has seven more orders from **Bonneville International** for the rollout of HD Radio in three more markets. The stations are **WIL(FM)** and **WVRV(FM)** in St. Louis; **WGMS(FM)**, **WZZ(FM)** and **WTOP(AM-FM)** in Washington; and **KKLT(FM)** in Phoenix. **Talmage Ball** is **Bonneville** VP of engineering. A **BE** official described **Bonneville's** schedule as an "ambitious rollout in a short period of time." ...

**dMarc Broadcasting** said **Spanish Broadcasting System** committed to standardize its 20 stations on **Scott Studios'**

**SS32** digital automation platform. **Bill Murdoch** is VP of engineering for **SBS**, which uses the **Scott** product line on at least some of its other stations already.

Separately, **dMarc** said **Nassau Broadcasting Partners** is standardizing its 50+ stations on the **SS32** system. **Anthony Gervasi** is senior vice president of VP engineering and technology at **Nassau**. ...

**OMT Inc.** said **Blackburn Radio Group** purchased an **iMediaTouch** automation suite. **Blackburn**, based in Ontario, will use it for a new FM in **Wingham** along with **CKNX(FM/AM)**. **CHYR** in **Leamington** and a three-station group in **Sarnia** will upgrade, and a wide-area Internet approach for scheduling, monitoring and audio production is planned to tie stations together. ...

**Thomson CCBN**, a provider to busi-

nesses including financial corporations, purchased 27 **Marantz Professional PMD570** solid-state recorders. They are in use as the audio recording and back-up systems for streaming Web events, such as shareholder meetings and product launches, that **Thomson CCBN** hosts in 46 countries. The recorders were sold by **Dale Pro Audio**. **Jon Ashner** is director of on-site Webcasting for **Thomson CCBN**. ...

**Austria's** public broadcaster **ORF** transmitted its New Year Concert 2005 in 5.1, using **APT's** Enhanced apt-X **WorldNet SkyLink** Multichannel Audio Encoders/Decoders.

The **Dolby Digital 5.1** radio mix of the concert, broadcast live as a trial transmission, was streamed via **APT's** **WorldNet SkyLink** encoder across a 2 Mbps **XDSL** link to the **ORF ATM** Network. There, the signal was decoded using the

**WorldNet SkyLink** decoder and mixed with announcements and other multichannel sources using **ORF's** **Acousta D500 5.1-Continuity** mixer. The **ORF TV Centre** distributed it to the **ASTRA IH** satellite uplink.

Audiences in Europe were able to receive the concert via digital satellite set-top boxes. An **ORF** broadcast engineer said the organization plans 24-hour operation of a 5.1 radio service.

"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 and users.

Companies with news of unusual or prominent purchases should e-mail information and photos to radioworld@imaspub.com. 📧

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- ✓ PAD (Program Associated Data)
- ✓ RDS/Datacasting
- ✓ Digital Logging
- ✓ Audio over IP (e.g. RTSP)
- ✓ Streaming/Content Insertion



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John Tesh  
The TeshMedia Group

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## McNamee: 'Radio's First Leading Man'

by Peter King

Long before the mega-channel cable/satellite universe, long before we could overdose on baseball games available on local and national packages, *mlb.com* and XM Satellite Radio, decades before anybody ever dreamed of ESPN, there was baseball on network radio.

The most dominant early voice was that of Graham McNamee.

*GRAHAM McNAMEE: 13 years (1923-35) and retired, for Westinghouse (1923-25) and NBC (1926-35). A pioneer in sports broadcasting, he called 12 World Series on radio, beginning in 1923. Gave instant credibility to the birth of the National Broadcast Company (NBC) in 1926. Dubbed "the greatest announcer we ever had" by Red Barber. A former*

*Broadway singer, he also pioneered radio broadcasts in 10 other sports, including boxing, tennis and football.*

That thumbnail sketch comes from the official National Baseball Hall of Fame Web site. It barely begins to tell the story of just how much Graham McNamee, who died in 1942, meant to the early days of radio, and in particular, radio sports.

### Pioneer

Hall of Fame broadcaster Red Barber wrote about McNamee in his 1970 book "The Broadcasters," in a chapter appropriately called "The Pioneers." He described McNamee as a talented singer who went to New York to further his career. After some success, in 1923 he auditioned for WEA(AM), was hired as an announcer and was soon assigned to broadcast a boxing match — which, of

course, he'd never done.

That fall, he broadcast his first World Series as the "color" man to sportswriter Grantland Rice. This is considered the first World Series carried via a national radio network broadcast.

"In the fourth inning of the third game, Rice decided he'd had enough of the microphone, and McNamee was handed the entire broadcast," Barber wrote.

The future would bring more sports, along with historic political events, including a two-week Democratic convention in 1924. Barber says audiences responded. "Nobody got the mail the way McNamee got it," whether it be good or bad. He got 50,000 letters after broadcasting the 1925 World Series.

This was not only a tribute to McNamee's magnetism, Barber wrote; it also reflects radio's initial impact.

Curt Smith, who wrote about McNamee in his history of baseball broadcasting "Voices of the Game," told *Radio World* it was easy to see why McNamee developed such a huge following.

"He had a marvelous voice, he had a great ability to paint word pictures, to set a stage, set the scene. McNamee made (listeners) see it on the radio. He made it come alive. He certainly was not simply a cause of radio's development, but a great mirror."

McNamee, he says, was among the first to understand how to make radio work.

### An entertainer first

Ronald Reagan once wrote about the impact of sports announcers on his life:

"Broadcasting play-by-play reports of football games, people like Graham McNamee and Ted Husing had become as famous as some Hollywood stars," Reagan recalled, "and often they were more famous than the athletes they reported on."

Curt Smith calls McNamee controversial

described what it was like to broadcast baseball:

"The broadcaster must see to it that in his announcement are very few ... 'breaks' on the air. For, with the breaks, the listeners immediately imagine that something has gone wrong with his set. Besides, he did not buy it just to listen to dead silence.

"So I found myself more than ever falling back on general description. And that is where the imagination comes in ...



Graham McNamee

You must make each of your listeners, though miles from the spot, feel that he or she, too, is there with you in that press stand, watching the movements of the game, the color, and flags; the pop-bottles thrown in the air ... Gloria Swanson arriving in her new ermine coat; McGraw in his dugout, apparently motionless, but giving signals all the time."

His growing popularity in the 1920s created jealousy among competitors. Many print journalists resented that McNamee could reach a larger audience with one broadcast than they could with a week's worth of writing.

**R**ing Lardner once wrote, 'I don't know which game to write about, the one I saw or the one I heard Graham McNamee announce.'

because he was an entertainer, not a die-hard sports guy. This rubbed some people wrong.

"He would much rather embellish a game ... than broadcast it literally," Smith said. "He understood the listener would remain with you as long as you entertained. His first commandment was 'I will not bore you,' and he never did. He freely admitted to being an entertainer first and a broadcaster second."

In a 1926 book "You're on the Air," co-authored by Robert Gordon Anderson (quoted online by Prof. Jules Tygiel of San Francisco State University), McNamee

McNamee was known to take liberties to make a broadcast more dramatic. After sitting near the announcer during an event in 1927, sports journalist Ring Lardner wrote, "I don't know which game to write about; the one I saw or the one I heard Graham McNamee announce."

Barber said McNamee made mistakes, but owned up to them. McNamee, often working alone, did not have the support enjoyed by many of today's broadcasters.

Rather than try to cover up a mistake or lack of knowledge, said Barber, McNamee would laugh right on the air. "And the See McNamee, page 27 ▶

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# McNamee

► Continued from page 26  
 nation smiled ... knew he was human.”

According to a recent Radio History Society article, McNamee also was a straight man for Ed Wynn’s “Texaco Fire Chief” program. He covered the Kentucky Derby and described Charles Lindbergh’s return from France and Admiral Richard Byrd’s return from an Antarctic expedition.

## An ‘institution’

McNamee was among the finalists for this year’s baseball Ford C. Frick Award, but did not win (see sidebar).

Smith calls McNamee an “extraordinary institution” who belongs in Cooperstown. But he says few of today’s media and fans are familiar with his name.

“To kids and teenagers growing up today, 10 years ago is ancient history,” Smith said. “McNamee has not been forgotten, but certainly, I think, (he) has been slighted, which is unfortunate.”

Another factor that works against McNamee’s legacy, says Smith, is that he never broadcast baseball on a regular, day-to-day basis for a single team over a full season. “He was strictly a network guy who never did an inning of play by play outside the networks.”

But in a forthcoming book, Smith ranks McNamee in the top third of his picks for the Top 101 baseball broadcasters of all time. Without him, he says, “Who knows what happens to network radio? ... In the 1920s and ‘30s ... Graham McNamee was radio. He was radio’s first leading man.”

Indeed, network radio linked small towns to the rest of the world. Baseball Hall of Famer Curt Gowdy, who broadcast baseball for the Red Sox, NBC-TV’s “Game of the Week and CBS Radio, remembers growing up in Wyoming, listening to McNamee broadcast the Rose Bowl and several World Series.

“He led the way in some instances,” says Gowdy, but, chuckling, added, “He was better at describing a sunset at the Rose Bowl than the game.”

Gowdy says McNamee may not have had a great knowledge of sports, but belongs in the Hall of Fame as a founding father of baseball broadcasting.

“He had a good voice. He was great at setting scenes ... and could really paint a picture. He was a good ad-libber.”

McNamee broadcast at least 10 sports during his radio years but likely will be best remembered for baseball. What remains to be seen is whether McNamee can beat out some of the more recent “voices of the game” to get into the Hall. For now, it’s wait ‘til next year.

*Peter King is an Orlando-based staff correspondent for CBS News Radio and a lifelong Mets fan.*



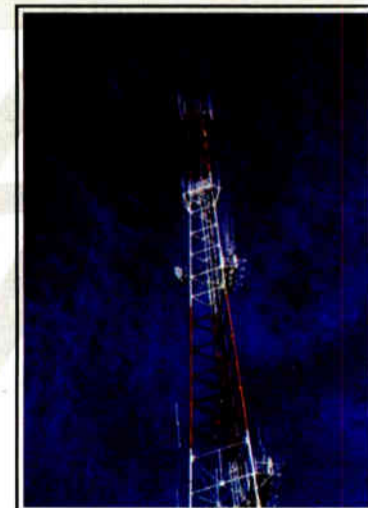
McNamee, right, with pitcher Waite Hoyt

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## Coleman Honored

Jerry Coleman, voice of the San Diego Padres and a pro former baseball player, is this year’s recipient of the Ford C. Frick Award from the National Baseball Hall of Fame and Museum, which recognizes contributions to baseball broadcasting.

Coleman, 80, also broadcast games for the Yankees, Angels and CBS Radio’s “Game of the Week.” He’ll be honored during induction ceremonies in July.

He played with the Yankees from 1949 to 1957, began broadcast work in 1960 and has spent 32 seasons covering the Padres. Hall of Fame officials noted his “strong and concise play-by-play calling style, which he effectively mixes with malapropisms, much to delight of his listening audience.”

Past recipients are Mel Allen, Jack Buck, Jimmy Dudley, Red Barber, Lindsey Nelson, Jaime Jarrin, Bob Elson, Harry Caray, Arch McDonald, Russ Hodges, By Saam, Marty Brennaman, Ernie Harwell, Joe Garagiola, Felo Ramirez, Vin Scully, Milo Hamilton, Harry Kalas, Jack Brickhouse, Chuck Thompson, Bob Uecker, Curt Gowdy, Bob Murphy, Lon Simmons, Buck Canel, Bob Wolff, Bob Prince and Herb Carneal.

## NEWS ANALYSIS

# Live Internet Radio on Cellphones

by James Careless

Plenty of attention has been given to podcasting, transferring Internet radio feeds to iPod music players for playback on the go. Now the same capability is being tried with 3G cellular phones.

also paying \$40 for a broadband connection into your house, why not use it while you're asleep to load your phone with your favorite radio channels?

"When you go in the morning, your phone is full of your favorite audio. That audio is then streamed from the phone to

carrier has deployed a 3G network capable of carrying data at 300-500 kbps (or more), streamed video can be sent directly to its subscribers.

Sound futuristic? Sprint has been selling cell TV programming — "Sprint PCS Vision" — since 2003. According to a January article in the Washington Post, "Sprint would not say how many mobile TV subscribers it has, but analysts say several hundred thousand subscribers tune into live television or quick newscasts, sports reports and other video clips that are updated throughout the day."

Cingular and Verizon are offering pay-per-view cell TV services. Cingular's \$9.99 per month MobiTV provides subscribers with 22 channels of video, while Verizon's \$15/month Vcast features news, sports and entertainment clips downloaded on demand to the user's 3G handset.

"The user sees a top-line menu structure with headings such as 'News,' 'Entertainment,' 'Sports' and 'Weather,'" said Ray Taylor, Verizon's executive director of consumer multimedia products.

"Let's say they want news: They click on the CNN heading to drill down to the kind of news they want, such as 'Business News.' Under this heading, they get a list of five to seven clips that are currently airing on CNN right now. They scroll down to the business story they want, select 'View' and the story is downloaded to their handset via Verizon's 3G broadband or EVDO wireless networks."

## Threat?

Obviously, a 3G network that can stream video to handsets can also stream audio. In fact, audio makes more sense, because wireless users could listen while walking or driving. Moreover, a modern Web browser phone could theoretically log onto whatever free or premium Internet radio channel its owner prefers, thus making the dream of portable live Internet radio a reality.

Fortunately for AM/FM radio broadcasters, wireless carriers are so enamored by the notion of cell TV that they're not trumpeting cell radio, at least not yet.

For instance, Sprint is promoting its service by saying, "It's like having a TV in the palm of your hand." Meanwhile, Cingular's emphasis is on offering subscribers "live TV that will satisfy news junkies, sports fans, music lovers or anyone wanting to be entertained while on the go," in the words of Jim Ryan, Cingular's vice president of data product management.

Perhaps, though, it is only a matter of time before wireless carriers grasp the potential for 3G cell radio, and not just for canned podcast-type programming. There is no technological reason Sirius Satellite Radio couldn't deliver Howard Stern live to cell radio subscribers via 3G wireless. Given that listeners will pay to hear Stern on satellite radio, it only makes sense that they would also pay to have him on their phones.

*Postscript: On April 4, a company called MSpot announced a subscription service that delivers "streaming radio" to mobile phones; Sprint Nationwide PCS customers are the first users. NPR Online is among the sources for its 13 program channels.*

*James Careless is a frequent contributor to Radio World.*

## Promo Power



by Mark Lapidus

# Radio Interns & Part-Timers

The notable phase of labor contraction occurred at the onset of broadcast consolidation. Radio eliminated many positions; those whose jobs survived took on more responsibility across multiple stations, usually in the same clusters.

Less obvious has been continued consolidation of the labor force as employees quit, get fired or move away.

Is there less work to do than before 1996? Yes and no. Automation, the rise of the Internet for communication, stations clustering in the same building — these factors have permitted radio to do more with fewer employees. However, when it comes to event execution, we may need more people than we did in the 1990s, because most active stations want (and need) to touch the public more directly than ever.

That in-person touch can keep a station on top or move it forward.

## To learn and assist

How do we do it with fewer full-time employees? Hire more full-timers; or obtain part-timers and interns and train them better. The latter is the course most managers take. Let's explore ways to make the most of such workers and protect ourselves against potential liability.

If there isn't a clear distinction between part-timers and interns at your stations, that's the first item you should fix.

Begin with the premise that interns are not employed. Even if you provide them with a stipend — which I find to be rare in our business — they are there to learn while they assist.

Interns should be obtaining college credit. They should be required to provide paperwork indicating that their college is giving them credit. Further, their college should make it clear how they are to be graded at the end of the internship.

If they are unable to provide you with clear proof that they are obtaining credit, you're opening yourself up to violating labor laws — receiving fines and owing back wages and penalties.

What about internships for high schoolers? Teens under 18 at the station can be problem unless you are prepared to watch them closely. You may find

See PART-TIMERS, page 29 ▶

**W**ireless carriers are so enamored by the notion of cell TV that they're not trumpeting cell radio — at least not yet.

Are live Internet radio broadcasts to wireless handsets and PDAs be close behind? In fact, the infrastructure to deliver Internet radio live to cellphones is up and running.

## Not yet live

Technologically speaking, loading Internet radio streams onto cellphones — "cell radio" — is not a big deal. Think of it as a super-sized ringtone being transferred from the Internet to a cellphone's onboard memory via a Web-connected PC. This is basically how the system works. However, such feeds are not live.

In the United States, Motorola is launching a service called iRadio that uses a cellphone, a broadband connection and a Bluetooth adaptor to stream Internet radio and MP3s to a car radio.

"If you're like most cellphone users, you charge your phone at night," said Paul Alfieri, a Motorola spokesman. "If you're

your car radio via Bluetooth. You can use the Preset buttons on your radio to change the channel, access your personal music or add a song to a 'wish list' so that you can learn more about it when you sync back at home."

Although iRadio may sound revolutionary, it's similar to podcasting. Neither approach is live; they play audio that has been downloaded from the Internet.

This said, Motorola is "working with wireless carriers to provide near-live traffic," said Alfieri. "They can download a small voice-only audio file to the phone, which can then be accessed by the consumer."

However, there is a wireless service available to U.S. cellphone users that could combine the commercial-free attraction of satellite radio with the live portability of AM and FM. In the wireless industry, this service is known as "cell TV."

The concept is simple: Once a wireless

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# Part-Timers

▶ Continued from page 28

yourself in a situation where a 20-year-old disc jockey is accused, for example, of contributing to the delinquency of a minor of 17. The kid's parents might have said it's okay that the youngster works with you; but if an incident occurs, you'll witness a radical change in their attitude about the situation and your role as a "supervisor."

What kind of work should interns do? They should be placed at stations where they dig the format and want to learn about promotion, sales, traffic, engineering, the Web or on-air programming. They should help with tasks that can be taught easily, like dubbing spots, setting up for a promotion or running Tapscan reports.

What shouldn't they do? They should not be treated as servants. They shouldn't be getting coffee or lunch or running personal errands. Mundane but business-oriented work is fine: sorting, mailing envelopes, answering phones, maintaining databases.

Along with this routine work, you owe it to them to spend time teaching them something real about our business. Teach them at least one aspect and explain how they can get their start, if that's what they want to do. It's a fair exchange.

A part-timer, on the other hand, is an employee. He or she is on the payroll and the company insurance to drive vehicles. They receive real training to perform the specialized position. You evaluate their work on a regular basis and attempt to improve their performance. They are held accountable for assignments and must be terminated if they violate station policy.

## Reward performance

A key to having a successful part-time staff: Hire great people who aren't in it for the money but who want to be around your station and a part of the fun. These are people who want to work in broadcasting full-time and are doing this because they want the experience and contacts; or perhaps they've been in the business and just enjoy having a role.

Once you find great part-timers, you reward them by using them the most and promoting them into full-time positions whenever possible.

Part-timers who know everyone on the staff and represent the station well should be rewarded in other ways. Give them tickets to special concerts, movie and events. Appraise them on the air when appropriate. Show them recognition at a special meeting of part-timers. Hold them up as examples to new part-timers.

Are you using part-timers across an entire cluster, rather than keeping them at one station? Consider a part-timer as having a "home" station, but be open to using them at other stations that interest them. This allows them more potential hours and gives them more contacts at different stations.

Where do you find part-timers? Try advertising on your radio station and Web site. Surprise — advertising does work!

Mark Lapidus is president of Lapidus Media. Write to him at [marklapidus@yahoo.com](mailto:marklapidus@yahoo.com).

## STATION SERVICES

### On The Radio.net Offers Ad Searching

On The Radio.net thinks it has a unique spin on radio advertising. It gives listeners and advertisers a way to locate radio ad information.

It launched last year as a way to let listeners find phone numbers and Web sites for commercials heard on the radio; now the company says it has evolved to allow users access an expanded database of station call letters, genre/format and contact information.

The company cites a typical scenario in which a listener hears a spot but remembers only the date it aired.

"A commercial search at On The Radio.net using the selected criteria, for example, the date and time the commercial aired, or the state in which it was broadcast, will

generate a list of advertisers who are registered with On The Radio.net and the commercial aired with criteria matching the user's search terms.

"The same applies to any advertiser, or listener seeking information about a radio station that caters to a particular audience: a list of stations registered with On The Radio.net within a 5-mile radius will be displayed that matches the specified criteria."

Info: [www.ontheradio.net](http://www.ontheradio.net)



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# Radio Listening by Daypart

According to Arbitron, radio reaches more than 94 percent of the U.S. population age 12+ each week; and on average, Americans spend almost 20 hours per week listening to their favorite stations.

"These numbers have remained relatively steady across recent surveys, despite a growing number of consumer media options," the research company states in its report "Radio Today: How Americans Listen to Radio."

The charts shown at right indicate that different age groups listen to radio at different times.

### Other findings:

"The impressive number of radio stations broadcasting in the U.S. today is a testimony to radio's never-waning popularity," Arbitron states.

"Although the number of AM stations has remained fairly constant over the past 20+ years, the number of FM stations has nearly doubled. In 2004, there were a total of 13,838 radio stations across the U.S.: More than 80 percent were commercial stations."

The number of people listening to radio weekly is fairly consistent across genders for people 18-64, the research company found.

"Interestingly, both the oldest male and the oldest female age groups are the least likely to tune in to radio each week. Among men, share of radio listening peaks among 35- to 44-year-olds (95.7 percent). This group also spends the most time listening (22:15)."

Meanwhile, male teens spend the least time listening (11:45). Among women, share of radio listening also peaks among 35- to 44-year-olds (96.4 percent).

"Female teens spend the least time listening each week (15:00). Younger women 18-24 also listen for a shorter duration, on average (18:00), than their older female counterparts (19:00 or more). Women 65+ are the least likely to tune in each week (85.7 percent). Otherwise, listening patterns for women 25-64 don't vary greatly by age."

Arbitron says radio listening peaks most noticeably during wake-ups and commutes at 7 a.m. every weekday. Listening remains strong through 6 p.m., after which it begins to taper off.

On weekends, listening is at its highest between the hours of 9 a.m. and 4 p.m. Regardless of the day of the week, listening drops to its lowest levels while most people are sleeping, midnight through 5 a.m.

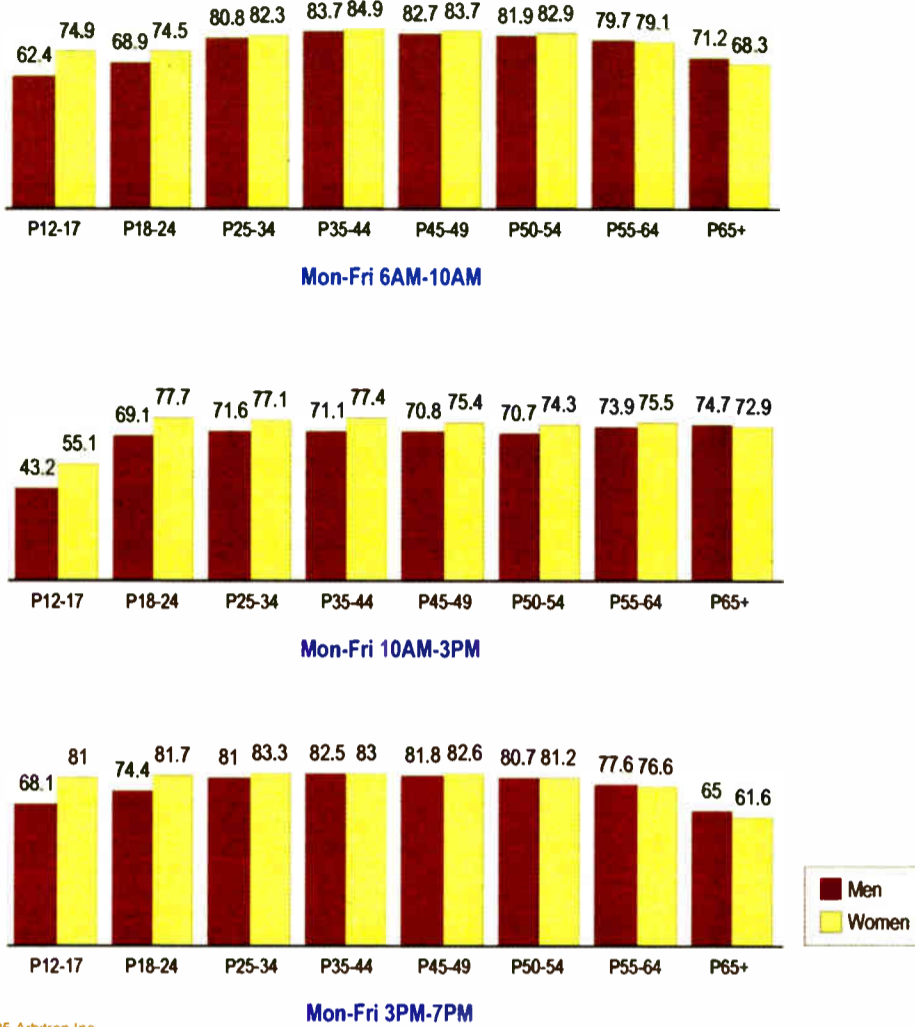
Overnight listening patterns remain consistent across age groups but not across genders.

Men of all ages are more likely than their female counterparts to tune in to radio from midnight to 6 a.m. Weekly time spent listening from midnight to 6 a.m. is fairly consistent for both men and women and among listeners of all ages.

## Listening by Daypart

### Who's Listening When

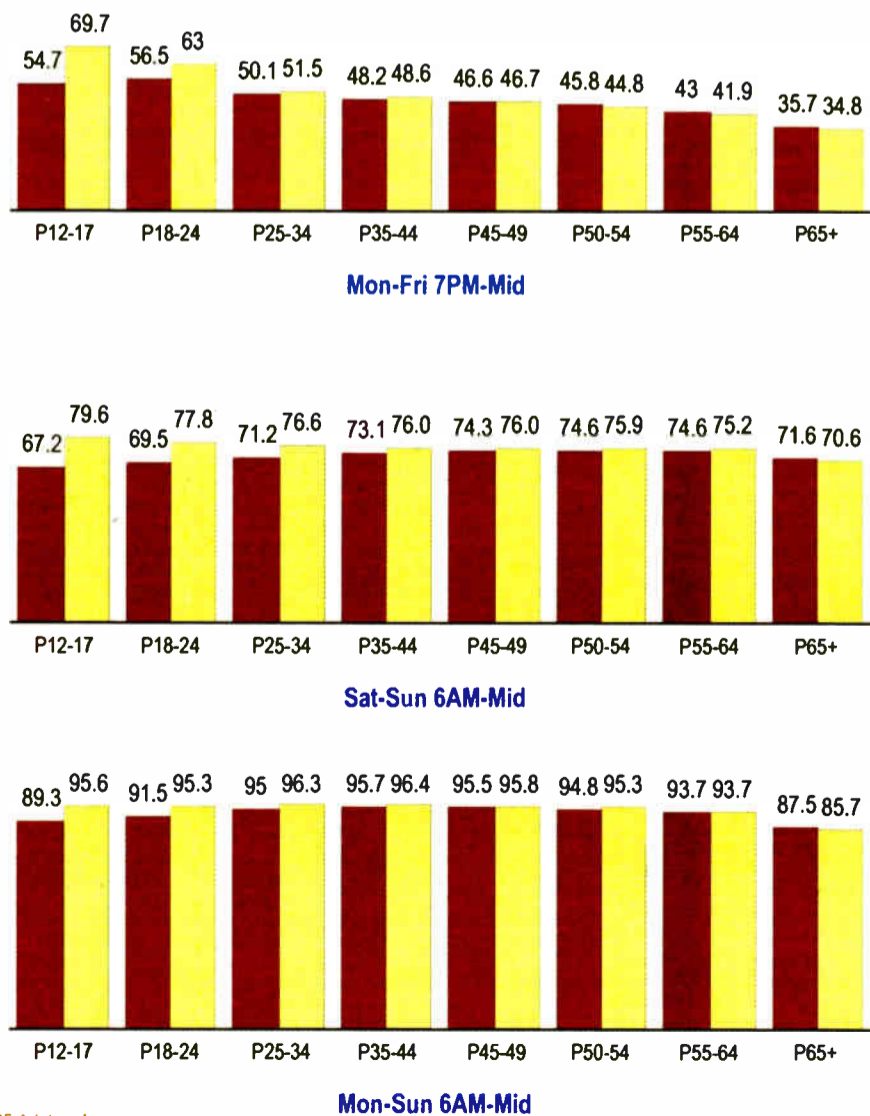
Different age groups listen to radio at different times. Peak listening times for most men and women are weekday mornings from 6AM to 10AM and late afternoons from 3PM to 7PM. Teenagers are most likely to tune in on weekends and weekday afternoons, after school. The Monday-Friday midday time slot (10AM-3PM) captures the attention of more women than men. Monday through Friday, the most dedicated nighttime listeners are teens and young Adults 18-24.



Note: Figures above are Cume Ratings.  
Source: MaxInfo® Plus National Regional Database, Spring 2004

12 Radio Today 2005 Edition © 2005 Arbitron Inc

## Listening by Daypart



Note: Figures above are Cume Ratings.  
Source: MaxInfo® Plus National Regional Database, Spring 2004

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**People News**

Balsys Technology Group hired **Robert DiPilato Jr.** as project engineer and **Chuck Bullett** as senior project engineer. DiPilato had been chief engineer of Radio One-owned WILD(AM) and WBOT(FM) in the Boston area. Bullett had been senior chief engineer for Citadel Broadcasting in its Maine and New Hampshire markets.

Network Electronics US added **Bob McIntier** as a technical specialist in the company's Salt Lake City headquarters. He had served as a project manager, product support specialist and applications engineer at Philips/Thomson Broadcast.

**Ron Harris**, executive VP/GM at Criswell Communications/KCBI(FM) in Dallas, was named chairman of the board of the National Religious Broadcasters.

**Matt Leland** joined Dielectric's radio

sales team. He has been with the company since 1994, working in design and product enhancement capacities.

Susquehanna Radio Corp. programmer **Rick McDonald** hung up his headphones after 33 years. He joined Susquehanna in 1972 as a programmer/disc jockey for WLQR(AM) in Toledo, Ohio.

OMT promoted **Kevin Kowal** to integration/project manager. He had been a support technician. **Obie Dixon** was added to the iMediaTouch sales team as senior account manager. He has held several positions in the broadcast industry over 15 years, including 13 years with Computer Concepts as a sales rep.

**Derald McHatton** was appointed RF

customer service engineer for **Broadcast Electronics**. He had been with Harris' Broadcast Division as a field engineer for HDTV.

Clear Channel Radio named **Phil Robken** market manager for its six-station cluster in Charlottesville, Va. ...

**Karl Moore** was appointed regional director of operations for the Boston hub of Clear Channel's Total Traffic Network.

Radio One promoted **Deborah A. Cowan** from VP, finance to senior VP of finance.

**Tom Herschel** was appointed VP and GM of **Infinity Broadcasting's** two rock format stations in Cleveland, WNCX(FM) and WXTM(FM). He retains duties as



Rick McDonald




Matt Leland

director of sales for the Cleveland cluster, which also includes WDOK(FM) and WQAL(FM). ... **David Goodman** was named president of marketing for Infinity. He had served as EVP of marketing. ... **Matt Timothy** was named VP, streaming media for Infinity. He had been general sales manager for WCBS(AM) Newsradio 880 in New York. ... **Kevin Robinson** was named VP, Infinity's Hot AC programming.


ABC News Radio named **Robert Garcia** as Washington bureau chief, replacing Merrilee Cox. He also oversees the Washington Audio News Distribution service. ... ABC Radio Networks hired **Carlos A. San Jose** as director of Hispanic sales. ... ABC Radio exec **Phil Boyce** was named VP, programming, ABC News/Talk stations. He maintains his programming duties at WABC(AM) in New York and his supervisory duties for ABC Radio's "The Sean Hannity Show."

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# Studio Sessions

Product Guide



Inside

Radio World

Resource for Radio On-Air, Production and Recording

April 27, 2005

PRODUCT EVALUATION

## PMD660 'Irresistible' to Reporter

*Marantz's Handheld Offers Compact Size, Price; Recording, Editing Features for Newsgathering*

by Carl Lindemann

The arrival of the Marantz PMD660 portable recorder brings the digital audio revolution to a logical next step. With it, the gathering of sound on rugged, reliable and cost-effective CompactFlash memory cards finally finishes off previous formats, such as cassette, DAT and MiniDisc.

The PMD660 isn't so much about revolutionary technology as it is about effective packaging and pricing of said technology. With 2 GB CF cards available for under \$200, the stage is set for Marantz's new recorder. The PMD660 is an instant classic and sure to quickly become the industry

standard for sound gathering. Once you use it, you won't want to use anything else.

The PMD660 is a convenient 4.5 x 7.2 x 1.9 inches and weighs in at just over a pound. This provides enough real estate to have high-quality Neutrik XLR balanced mic inputs, full-sized controls and an excellent LED audio level meter — a welcome relief from unbalanced 1/8-inch jacks and buttons/menus that seem designed for Lilliputian fingers found on the pocket MiniDisc units. In addition, it includes integrated stereo mics and a speaker.

The unit runs off four AA batteries or an included AC power adapter. Other amenities include a USB 1.1 computer interface,

1/8-inch line in and out jacks and a 1/8-inch headphone jack. Also, the PMD660 offers 48 V phantom power and an optional wired remote control. An on/off switch is located on the side.

also can be at 44.1 or 48 kHz.

Setting it up for use is easy. Quality settings and numerous options including automatic or manual level control, automatic shutdown with low battery levels, choice of inputs and outputs and automatic track marking can be programmed into three presets. These come programmed for most common uses. Customizing these may



Lindemann says the PMD660 is essentially a dedicated computer with interfaces that combine buttons and software options.

The CompactFlash card compartment is designed to offer easy removal of the memory storage to pop into a computer. If you prefer to rely on the USB interface to transfer audio, the memory card can be made more permanent with a lock-down screw. In the U.S. market, the package includes a 64 MB card, which is reasonable to have around as an emergency backup; but be sure to budget for at least one 512 MB card.

seem a bit complicated at first glance, but I was able to find my way through without referring to the manual.

Once programmed, toggling between them also is easy. It takes three buttons to go from gathering interviews through a microphone to getting a line level through a multi-box. The recorder is designed to operate on the tabletop or from the shoulder strap. Strapped on for field use, the mic inputs are on the bottom side with the head-

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**A**fter marking sound bites with non-destructive EDL markers, you can copy these into new files. This can save effort back in the studio, as the actualities are ready to go once you dump them into the on-air system for a newscast.

These digital recorders basically are dedicated computers with simplified interfaces combining a mix of buttons and software menu choices. A familiar series of buttons operate the basic record/playback functions. The high-contrast LCD display shows the pertinent information on recordings and software menus and has a nice, bright backlight as needed.

For those familiar with the larger PMD670, digging into the software options of the PMD660 shows streamlined audio quality choices. Here, the selection is between uncompressed PCM with a choice of mono or stereo at either 44.1 or 48 kHz sampling frequency, or MP3 compressed with mono at 64 kbps or stereo at 128 kbps. MP3 recordings

phone jack, LED meter and memory compartment on top.

This makes for a practical arrangement.

For a field reporter, the mic cable is down and out of the way. Checking levels — with a choice between peak reading and continuous metering — takes just a downward glance to see that things are lit up properly. Incidentally, all controls except the on/off switch can be locked out to protect recordings in progress.

**Man on the street**

The unit includes light editing capabilities. The Virtual Track and Copy Segment commands are a nice update on the track mark function familiar to

See MARANTZ, page 33 ▶



# Marantz

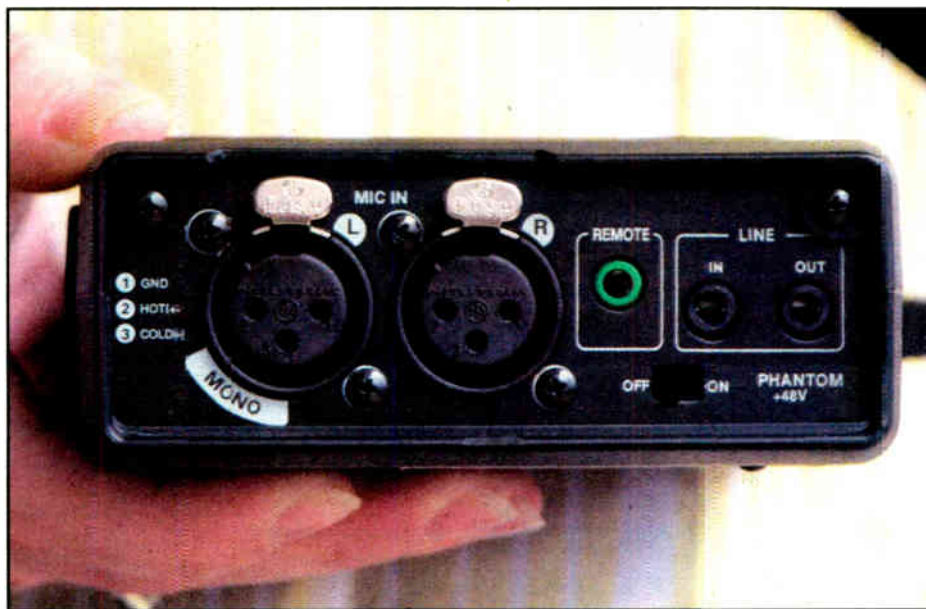
► Continued from page 32

MiniDisc users. After marking sound bites with non-destructive EDL markers, you can have it copy these into new files. This can save effort back in the studio, as the actualities are ready to go once you dump them into the on-air system for a newscast.

I put the PMD660 through its paces with a SanDisk Ultra II CF card, which provides almost nine hours of stereo MP3 recording at 44.1 kHz or 96 minutes in uncompressed 44.1 mono. The first test was just letting it run with the internal mic on and seeing how long it would record.

Battery life was terrific. The manual claims four hours endurance, but my testing showed far better. A set of standard Duracell alkaline cells managed just under seven hours of recording with the backlight and phantom power off. A series of warning beeps came through the headphones to signal that the file was about to be saved and the unit shut down.

The sound quality of recordings made with a beyerdynamic MCE58 and a Shure KSM27 phantom powered condenser was excellent. The audio quality of the 64 kbps mono was much better than I expected and will do fine for interviews and the like. Going uncompressed yielded excellent, rich sound. Though I could discriminate between the compressed and uncompressed recordings, the difference between the 44.1 and 48 kHz settings was too subtle for my ears.



fine, it would have been nice if Marantz had included a 256/128 stereo/mono MP3 option to bridge the quality/storage size gap between uncompressed audio and 128/64 kbps MP3. A USB 2.0 interface is key, too.

I'd also like a protective cover for the on/off switch, USB port and AC adapter plug. This would keep out any contamination and ensure no accidental shutoff. The only missing necessary accessory is a fitted field bag to make this ready for a rainy day out.

The PMD660 is the right size, the right price and has been carefully thought through with audio acquisition for the radio reporter in mind. Even though I might quibble about details in the feature set, the overall package is irresistible.

Carl Lindemann is a frequent contributor to Radio World.

Photo by Bob Kovacs

**Product Capsule:**  
**Marantz PMD660**  
**Portable Solid-State Recorder**

**Thumbs Up**

- ✓ Excellent size/weight
- ✓ Great battery life
- ✓ Rugged

**Thumbs Down**

- ✓ Few MP3 compression choices
- ✓ 1/8-inch headphone and line in/out jacks
- ✓ Slower USB 1.1 interface

Price: \$649.99

CONTACT: D&M Professional in Illinois at (630) 741-0330 or visit [www.d-mpro.com](http://www.d-mpro.com).

Taking recordings back into the DAW for further evaluation took a little time through the older USB 1.1 interface. The seven-hour test yielded a 383 MB-sized MP3 file that took 9.5 minutes to transfer. It was far faster to pop the CF card and put it into a high-speed reader.

Using Adobe Audition's analysis utility confirmed the company's 60dB S/N ratio spec. Finicky pro audio recordists might turn up their noses at anything under 90 dB, but the quality of the field recordings made with this are more dependent on using a quality mic properly.

I only have a few bones to pick with the PMD660. Of course, 1/4-inch rather than 1/8-inch headphone and line in/out jacks are preferable; that may be a necessary tradeoff for the portable size. Though the included MP3 options sound



## "AudioVAULT Version 9.0 is Ready To Go!"

With twenty years of engineering experience between them, Kim and Lori know when software is ready for delivery. Heading up our AudioVAULT test department, they put every aspect of Version 9.0 through the most rigorous evaluation, so you're assured this version of AudioVAULT is as reliable and robust as its predecessors. Among the more than three dozen enhancements are dual network support for redundancy, server failover without program interruption and more flexible station-wide play while recording. And as is always the case with AudioVAULT, your pager is less likely to go off at night—thanks to Kim and Lori.



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## NEWS MAKER

# Big D Loves Those 'Oldies'

*Vintage Equipment Enthusiast Restores Classics, Builds Authentic Replicas of Broadcast Favorites*

by Ty Ford

Darrin Warner runs Big D Broadcast Exchange, a business that focuses on used equipment and vintage RCA microphones, which he founded in 1999.

The path to his love of classic broadcast mics and components began in Warner's childhood. Warner's father was in the AV department at Earlham College in Richmond, Ind., and often brought old equipment home for his sons to play with, take apart and rebuild.

"He helped build and maintain one of the nation's largest language labs in the 1960s and worked on everything from typewriters to AV equipment," he said. "They used over 80 Crown reel-to-reel machines. During summer vacation in grade school, I remember going to work with him, playing with three Matchbox cars and watching 'The Andy Griffith Show' on television. It was always a treat."

After graduating from high school, Warner applied his love for the technical by taking a job at a drive-in movie theater, where he ran the projectors and performed minor maintenance. In 1985 he moved to Wisconsin to work in a sporting goods warehouse, and put that experience to work when he moved back to Indiana to work in the warehouse of a growing distribution company: Allied Broadcast Equipment, founded by Roy Ridge and Jim Jones.

Warner joined Allied's shipping department in 1986. In the evening, after he had completed his shipping duties, he began doing photography for the company's equipment catalog. Warner also worked with Allied Marketing Director Dave Burns on special projects, and remembers working into the wee hours of the morning to get the photography work done.

"It was a lot of work, but also a lot of fun."

## Experience wanted

Although Allied had been selling new equipment, the company decided to get back into used equipment about the time Warner began his photography work. The used equipment was stored in the basement, near the darkroom. While waiting on photos to dry, Warner would check out the gear just as he had done as a child in his Dad's office. It wasn't long before Warner began working with Jim Jones and Chuck Yount in the used equipment division, cleaning and restoring equipment.

Warner became fascinated with Ampex



Darrin Warner holds his replica of the RCA 77DX mic, which Larry King and David Letterman use as props.

350 reel-to-reel machines.

"Their transports operated more smoothly than the (then) new Otari or Tascams, and certainly smoother than the Crowns. The Ampexes also sounded better," he said. "I bought a used 350 Ampex with solid-state Inovonics amps and rebuilt it. Something was not right. I finally got some tube electronics and really noticed an improvement in the audio quality."

"I began to realize that the older technology worked as good or better than the new, and there was still a market for it."

In 1988, Harris Corp. bought Allied Broadcast Equipment, and the used equipment division was at its peak. Large amounts of used equipment were arriving daily due to equipment trade-ins from the sale of new equipment.

"A lot of our sales were cart machines and reel-to-reels," he said. "I remember making three trips to WLS in Chicago with a 20-foot trailer to pick up equipment from their studio."

Shortly after Harris' acquisition of Allied, Jones passed away and Chuck Yount retired. Warner became the used equipment specialist/supervisor and spent more time on the phone selling and exercising his specialty, setting the price of incoming and outgoing used equipment.

A few years later, he started a mobile DJ business with used cart machines and about 200 carts from Allied's used equipment stock.

"The ATC cart machines, Gates Criterion One, worked great," said Warner. "They were built like tanks with plug-in modules. Eventually I went to the lighter weight Audicords and then stepped up to

360 Systems Instant Replays."

Warner worked briefly at Broadcast Richmond, where he started the Experienced Equipment Division. But he left about a year later to start his own business, Big D Broadcast Exchange ([www.bigdmc.com](http://www.bigdmc.com)).

The name is a tribute to Jim Jones, who had tagged Warner with the "Big D" nickname years earlier. The business, now six years old, seems like a natural fit for

Warner. It offers microphones, replacement parts, restoration services, broadcast equipment and distribution for OC White, Ready Road Case and Chatter Box.

But Warner says the accomplishments of which he is most proud are the RCA 77DX replicas he now builds. A page on his Web site states, "If you like to restore old RCA microphones or would just like to have one for display in your office or front lobby of your station, this is the page for you."

His love of vintage gear is as prevalent as it was when he was a grade school child playing with the gear in his father's shop.

Ty Ford is a frequent contributor to *Radio World*. Visit him at [www.tyford.com](http://www.tyford.com).

## PRODUCT GUIDE

### HHB Portadrive Software Has Disk Mirroring

HHB says its Portadrive location recorder records more than 75 hours of uncompressed 24-bit/48 kHz audio onto a 40 GB hard disk, and supports AES31 and Pro Tools V5 session formats.

The company says version 1.40 of the Portadrive software offers enhancements such as Disk Mirroring, USB Target Mode, iXML support and improved auto-shutdown modes. iXML support facilitates audio file information exchange between different systems and stages of the production chain.

The Disk Mirroring feature records the current session to the internal disk and an external SCSI drive, such as a DVD-RAM or hard drive. The company says this adds security and provides a copy of the session shortly after completing the recording. Disk Mirroring can be suspended, which allows the SCSI drive to be temporarily removed. The external drive is re-synced and re-connected.

The mirror copy is synchronous, so any changes made to the recording, including metadata changes after the recording is complete, will be mirrored to the copy.

When a data transfer option such as the Portadrive docking station, DVD-RAM or FTP via Ethernet is unavailable, the USB Target Mode feature allows the copying of files from Portadrive to any computer fitted with a USB port. The company says this is useful for transfer of Pro Tools sessions for which the use of DVD-RAM discs is not supported and FTP transfer is not suitable.

Software features include Power Source Switching, and improvements to the creation of new sessions and refinements to the display of slate and take information.

The Portadrive retails for \$14,499. Version 1.40 software is free and available for download at [www.hhbusa.com](http://www.hhbusa.com).

For more information, contact Sennheiser USA at (860) 434-9190 or visit [www.sennheiserusa.com](http://www.sennheiserusa.com).



### BSI Offers Simian 1.7, SkimmerPlus Logger

Broadcast Software International has debuted its multi-channel audio logger SkimmerPlus, which simultaneously records up to eight stereo channels of uncompressed audio and archives the recordings into a compressed audio format for longer-term storage.

A Web server allows audio files to be played back using any Web browser, but limits playback to authorized users.

BSI also released version 1.7 of its Simian digital automation system. Pre-existing features include dynamic time compression, quadruple file overlap, automatic Web page generation and support for RDS track and title export.

V1.7 adds command macros with the ability to insert a program log within an existing program log on the fly. Dynamic time compression is now available with AudioScience sound cards, and support for a 24-input USB trigger device and Broadcast Tools SS8.2 trigger, relay and audio switcher is included. Additionally, the company says it is easier for users to deal with ball games with floating ends or "rain-stopped play" with the GOTO function.

The company says those using Simian's dynamic HTML generator get new functions including the ability to insert any HTML text from Simian itself. There also are changes to better support XML users.

BSI's audio engine was updated to include greater support of the MP3 file format, as well as Linear PCM and MPEG Layer 2, which means Simian 1.7 will integrate with the NPR Content Depot rollout.

Simian 1.7 works with Windows XP Pro Service Pack 2, or Windows 2000 SP4.

Prices for SkimmerPlus start at \$399. Simian retails for \$1499.

For more information, contact BSI in Oregon at (888) BSI-USA1 (274-8721) or visit [www.bsiusa.com](http://www.bsiusa.com).

## Product Showcase



### Model TTI-2 Time • Temperature • ID Delivery

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# Congratulations Smitty



## Milford "Smitty" Smith 2005 NAB Radio Engineering Achievement Award Recipient



*Congratulations to a great industry achiever!*



*Smitty, there is no one Greater in all of Media — congratulations from your friends at Comrex!*



*Electronics Research, Inc. congratulates Milford K. Smith, recipient of the NAB Radio Engineering Achievement Award.*



*Congratulations on your career and industry leadership.*



*Congratulations, Smitty, on your well-deserved recognition, and thank you for your efforts in furthering technology in our industry.*



*iBiquity Digital congratulates Smitty and deeply appreciates his extraordinary efforts to help pioneer digital radio.*



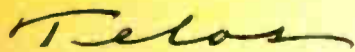
*Congratulations on your well-deserved recognition, from your friends at Jampro.*



*Always smiling and always a pleasure to work with — congratulations on your dedicated service to broadcasting.*



*Best wishes to a man who exemplifies the best in radio management and engineering.*



*Congratulations, Smitty, on receiving the 2005 NAB Radio Engineering Achievement Award — from Steve Church, Frank Foti, Mike Dosch and your friends at Telos-Omnia-Axia!*

# New Money Helps Quantegy Reopen

*Company's CEO 'Expects to Stay in Business,' Squashes Rumors of Component Unavailability*

by Tom Vernon

The announcement in January that tape manufacturer Quantegy in Opelika, Ala. was closing its doors and filing for restructuring under Chapter 11 bankruptcy sent waves of nostalgia, rumors and even some panic through parts of the recording and media industries. Quantegy was the last manufacturer of audio tape, and news of its closing caused a brief period during which old Ampex and Quantegy tape stock was scalped for exorbitant prices on eBay.

While not back at full force, Quantegy has re-opened with 20 employees returning to work in progress, and new orders are being taken.

CEO Dick Lindenmuth said, "Plans have been under way to re-focus our market, do a better job of customer service and bring the manufacturing line up to speed for data products," he said.

Lindenmuth said the decision to close in January was prompted by two events: A major customer for data products decided to discontinue with Quantegy and make its own supply; and a quality problem with a video product cost the company \$2 million.

Articles about the company in national media including the Wall Street Journal attracted a number of potential investors, and the sale of the company to Peter Hutt and Frank Foster was approved in a court hearing on March 24. "These two individuals have a solid understanding of the market place, as well as some good relationships with customers. I could not imagine Quantegy in better hands," said Lindenmuth.

In a separate interview with the Society of Professional Audio Recording Services earlier this year, Lindenmuth said rumors regarding the unavailability

products.

The history of magnetic tape manufacturing had its origins at the end of World War II. Some of the first German tape recorders were captured by the Allies at the end of the war. The Army Signal Corps used one to record a speech by General Dwight Eisenhower to be broadcast in occupied Germany. Because there was a shortage of recording tape, old German stock was reused.



Quantegy offers the 600 Series of open reel audio tape, and touts its low noise/high output formulation.

Due to problems with the emerging technology, erasure of the old tape was less than perfect. The result was the broadcast of Eisenhower's speech with Adolph Hitler's voice intermittently fading in and out, resulting in confusion among listeners and embarrassment for the Signal Corps.

the company became Quantegy Inc.

The impact of magnetic tape on radio went beyond its use as an editing and storage medium. A few years after the reel-to-reel recorder was introduced, tape cartridges and cart machines became available. The tape cartridge revolutionized commercial delivery and helped give rise to the Top 40 format in the early 1960s. Carts were a staple of all-news stations, which were also launching around this time.

Broadcast automation systems of the 1960s and '70s used larger 14-inch reels

of tape for much of their musical content, as well as A-, B- and C-sized carts for commercials, IDs, weather and news breaks.

Radio's use of magnetic tape began to decline in the mid-1990s, as the conversion from analog to digital technology began, and costs for hard drive storage started to drop.

## Analog advocates

While the technological evolution to digital recording techniques and hard drives as a storage medium may have been inevitable, not everyone is happy about it.

As with vinyl LPs, analog tape has its share of die-hard followers who claim that digital media can never have the same sound quality as analog. Among analog's advocates are musicians Lou Reed, Neil Young and Jackson Browne, as well as producer Rick Rubin.

In the SPARS interview, Lindenmuth confirmed that recording studios are his company's biggest market sector for tape.

SPARS later asked why another manufacturer couldn't start up, making and selling tape in small runs now that demand has increased prices.

"Making tape is a craft, like making Martin guitars," Lindenmuth replied. "A new manufacturer wouldn't have the experience to do it right."

"Quantegy is very proud of its quality, and has made a huge investment in manufacturing, something not easily duplicated. A new manufacturer would have to compete with Quantegy, who expects to stay in business. Quantegy has remained in business as long as it has, outlasting other competitors, because it made the best tape," he said.

Lindenmuth said prices may be raised to accommodate the reduced output, "possibly, in the range of 9 to 10 per cent, to cover increased costs."

## New competition

A restructured Quantegy will face competition in the audio tape market from at least one other manufacturer. ATR Magnetics, a new California-based company, has announced plans to begin delivery of its own brand of tape around June 1.

Carl Rusk, a partner at the company, expects ATR Magnetics to be lean and efficient.

"We will sell our product direct to customers via the Web, through telephone orders and with a few licensed distributors," he said. "There will be no salesmen on the payroll. We should be able to quickly scale up operations if the demand warrants it."

Some broadcasters may be interested in the availability of lubricated cart tape, and Rusk says it is a definite possibility for the ATR product line. "It's not a big leap from manufacturing regular tape to cart tape. If the demand is there, it is a market we would consider getting into," he said.

The initial rollout will be of one type of tape, but Rusk eventually hopes to offer both high- and low-output media. "There are a number of tape formulas that we know and respect, but our offerings will be put together from scratch," he said.

Rusk is optimistic about the future of Quantegy.

"I really hope they make a full comeback. Competition is good for the industry, and having two companies should give customers confidence in the future of the analog medium," he said, adding that he is doubtful the market for tape is large enough to support more than two.

## Holding on

Whether or not tape meets its ultimate demise soon, the medium is becoming something of an industry footnote.

Tapewarehouse.com says it may be one of Quantegy's oldest customers, as it started in the early 1970s selling both Ampex and 3M pancake tape products to studios and individuals. But spokesman Lou Simmons says the company has evolved considerably over the years.

"Essentially, we are a professional recording media supply company," he said. "We sell audio tape, video tape ... media products, we got into computer products in the 1980s when the handwriting was on the wall that optical was coming and it was going to take over our industry."

Jim Martin, president and owner of Cartguys, said the restructuring of Quantegy would not affect his business, as Cartguys has a large quantity of cart tape on hand and should be able to continue meeting the demand for new and rebuilt carts in the foreseeable future. Martin said about 25 percent of his sales are to college broadcasters, and that carts are still used by several all-news stations.

While the domestic use of magnetic tape is largely limited to recording studios, the global market has a few other hot spots. Rusk notes that in India and parts of Asia, the dominant medium for distributing music is cassette tape, and factories in China are still turning out cassette recorders in large numbers.

Tom Vernon is a frequent contributor to Radio World.

**M**aking tape is a craft, like making Martin guitars. A new manufacturer wouldn't have the experience to do it right.

— Quantegy CEO Dick Lindenmuth

of the necessary components for making tape were false.

"Over 1 1/2 years ago, when one chemical became unavailable, small changes were made in the oxide formulation. The tape made with that change has been being sold since then and the company has received no complaints," he said. "Although certain longtime customers noticed at the time that there was a slight difference in the sound, some have commented that it was an improvement."

"In addition, conversations have been held with Quantegy suppliers to confirm that manufacturing ingredients will continue to be available in the coming months," he said.

The restructured Quantegy will focus on the growing market for data products, Lindenmuth sought to assure customers it will continue to produce its line of audio

Eisenhower banned further use of captured German tape and directed Major John Herbert Orr to create a tape manufacturing plant in the United States. With the help of a German scientist, Orr recreated the formula for magnetic tape and set up a plant in his home town of Opelika, Ala.

Orradio Industries manufactured tape with the "Irish" brand name until 1959, when the company was purchased by Ampex Corp.

Over the next 35 years, the Ampex Magnetic Tape Division developed and refined the medium with innovations such as metal particle, CrO<sub>2</sub> and various high-bias formulas. These developments were in concert with hardware innovations leading to digital recorders.

In 1995, Ampex placed the Magnetic Tape Division up for sale. That November the sale was completed and

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## PRODUCT EVALUATION

# MicTel Sends Audio Over Cell Line

*CircuitWerkes' Telephone Interface Has Internal User-Switchable Send Limiters for Clear Feed*

by Paul Kaminski

When a reporter rolls up on a breaking story or an engineer gets a last-minute requirement for a remote, the usual option is a phone remote. CircuitWerkes' MicTel telephone interface helps broadcasters take fair advantage of that option.

Inspired by the venerable Gentner Microtel, the MicTel has a handset connection to a dial-up telephone line. The device replaces the telephone handset, and allows the user to connect a microphone with XLR connector and a line-level input with a 1/4-inch connector so the audio can be transmitted back over the dialed-up line. MicTel adds the capability of sending that audio over a cell phone, which has become a de facto standard for last-minute broadcasts.

We wanted to find out how last-minute "last-minute" could be.

## Test groups

Our on-air test of the MicTel was a two-way chat with polka broadcasting legend Bill Flynn, whose Sunday morning program airs on WCDW(FM) Cool 100 in Binghamton, N.Y.

I connected an AT 897 condenser shotgun mic to the XLR mic input, and a pair of Sony Walkman-style headphones to the 1/8-inch headphone jacks. I used a T-Mobile Samsung c225 cell phone with headset adapter and connecting cord (2.5 mm TRS male to 2.5 mm TRS male) to make the connection.



MicTel has connections for 1/4 -inch and 1/8 -inch headphone jacks, 'which help keep equipment loads light,' says Kaminski.

the unit's capabilities. Besides the handset and cell output connections, the MicTel has a +10 dB line level output for an XLR standard line input (POTS codec, etc.). It also has a balanced output for caller (receive) audio from either the handset and cell connection, which can then be connected to a recorder (for recording news actuality), or from a PA

er is accessible with a screw that needs a Phillips screwdriver. Some users wouldn't carry one, so a screw that can be turned by hand would ease battery

replacement. We might opt to replace the Phillips screw.

The best feature of the MicTel is its

## Product Capsule: CircuitWerkes MicTel Telephone Interface

### Thumbs Up

- ✓ Excellent value
- ✓ Send limiters keep audio clear
- ✓ Aux output for recording or PA
- ✓ Balanced inputs for line; user-switchable line input level from 0 to -40 dB
- ✓ Line-level XLR for POTS codec or other use
- ✓ Headphone jacks for 1/4 and 1/8 inch plugs

### Thumbs Down

- ✓ Battery cover needs Phillips screwdriver

Price: \$300 MSRP

CircuitWerkes Inc. in Florida at (352) 335-6555 or visit [www.circuitwerkes.com](http://www.circuitwerkes.com).

\$300 suggested retail price. The unit is suitable for news operations assembling a flyaway kit that can provide nearly 100 percent of news production capability in the field; for operations needing a quick high-quality interface for a cell phone or dial up line; and for operations wanting an emergency backup kept at the transmitter.

Paul Kaminski is the news director for Motor Sports Radio Network, and contributes reports to CBS Radio Network News. His e-mail is [motorsportsradio@msrp.com](mailto:motorsportsradio@msrp.com).

**In an informal test at CBS Radio News in New York, testers commented on the amount of gain available for the program feed, which can save audio recorded at a low level by boosting it to an appropriate level.**

Once connected, Bill and I conversed normally with much better sound quality. Bill's sidekick, engineer Kevin Bixby, commented that the feed was clear and clean — important considerations when you send a necessarily bandwidth-limited audio feed for an FM station with full audio bandwidth.

One reason the audio sounded clear is the inclusion of internal, user-switchable send limiters on both the MicTel's program send and aux send circuits. The limiter can control an over-exuberant reporter or personality from overdriving the dial-up or cell phone connection.

In an informal test at CBS Radio News in New York, testers commented on the amount of gain available for the program feed, which can save audio recorded at a low level by boosting it to an appropriate level. Both the microphone XLR and 1/4-inch program output are active, so wrap-arounds can be done quickly. The balanced line input jack has internal jumpers to adjust the audio line input gain from a 0 to -40 dB level.

Most users won't take advantage of all

feed for a remote (mix-minus return).

The unit has connections for 1/4-inch and 1/8-inch headphone cords, which help keep equipment loads light.

The MicTel has a side tone control, which adjusts the amount of return audio heard in the headsets or in the entire aux audio chain. The aux input can accept inputs from a radio for cueing or a line-level IFB.

With dimensions of 2-1/2 by 5 by 6 inches, the unit will fit comfortably in any bag or backpack. The MicTel is powered by two 9 Volt batteries and an external AC power transformer, with silent auto-switching capability from battery to AC power — perfect for a situation where the power is iffy or you need almost complete mobility, like a remote from the middle of a lake on your cell phone, for instance.

There's a low-battery LED indicator and the switch is recessed but accessible, which will help with inadvertent operation of the power switch. CircuitWerkes suggests a 36-hour operating time on two 9 Volt alkaline batteries. The battery cov-

## Cell Phones for Broadcast: Tips, Tricks and More

In addition to the CircuitWerkes MicTel, JK Audio and Conex make ready-to-go adapters for using the cell phone as a broadcast link.

Visitors to [www.jkaudio.com](http://www.jkaudio.com) will find data for its RemoteMix Sport, ComPack Daptor One and Daptor Two interfaces along with the CN045 connector cable. Joe Klinger says his company's products with wireless phone connection capability use an "interface circuit that emulates the microphone and earpiece load of a typical headset," which essentially "fools the phone into thinking there is a headset present."

Almost any cell phone with the 2.5 mm three-conductor headset plug will work with the JK equipment. Klinger cautions that his devices are not recommended for use with telephones with the walkie-talkie feature, such as Nextel, because of excessive RF noise.

Some phones like the Samsung c225, Nokia and Sony Ericsson need special adapters to convert their format connector to the 2.5mm format. I found an adapter for my newer-model Samsung SCH c225 at [www.accessorygeeks.com](http://www.accessorygeeks.com), where you can find information on batteries, adapters and external antennas.

If you have an external antenna, you might try that when you are using the cell phone for a broadcast, otherwise the RF could get back into the adapter. (This happened to me in my office, with metal filing cabinets, my standard phone and no external antenna. It caused a lot of hum, which would not pass most station quality control.) An external antenna will help with connection issues, as well.

Visitors to [www.conex-electro.com](http://www.conex-electro.com) will find data for the company's FJ-10 and FJ-500 FlipJack, which also connects to the 2.5 mm hands-free adapter jack on most telephones. John Plattner at Conex says the aux input on his equipment is well-suited for a connection to a wireless microphone, and that many users were doing so as a source for crowd noise (ambient sound) or for a person doing commentary from a remote location, like a sideline reporter.

Taking Plattner's suggestion to another level, one can use a set of wireless headphones or infrared headphones connected to the headphone jack and go completely wireless at the next remote. Talk about crowd interaction.

The convention for the 2.5 mm hands free plug is:

- Tip: send (mic level 2 kohm)
- Ring: receive (8 ohms usually)
- Sleeve: ground

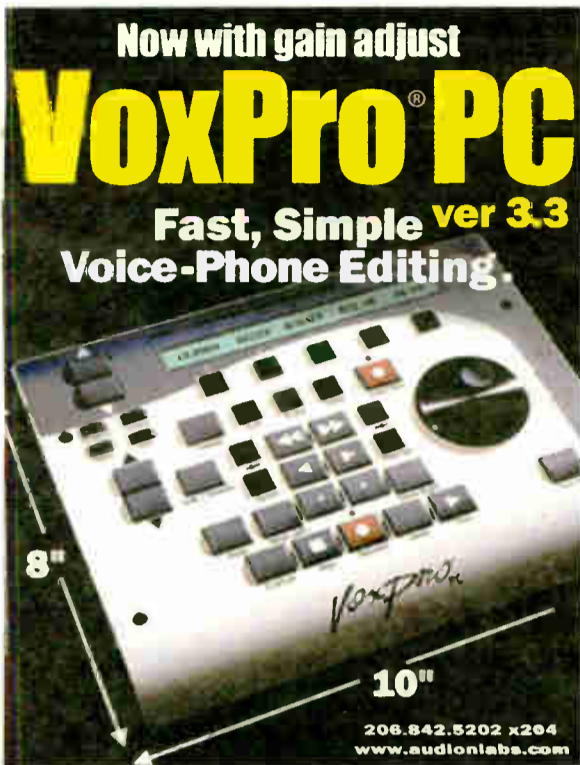
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## PRODUCT GUIDE

## BWF-Compliant Edirol R-4 Has Five Processors

Edirol Corp. says the R-4 four-channel portable digital recorder is shipping, and has been expanded to include support for Broadcast Wave Format files.

The R-4 writes the required metadata to comply with BWF standard, which the company says allows the unit to function as a more powerful field recorder with a wider range of potential uses, and eases audio exporting.

When a Project File is set to BWF on the R-4, the audio file written to the hard disk contains information about the recording time and the recording device, in addition to the audio data. The resulting file can be loaded into a playback device or audio editor like a conventional .WAV file.

The R-4 records at audio resolutions up to 24-bit/96 kHz on each of the four channels, and features a limiter and five dynamics processors — three-band parametric EQ, six-band graphic EQ, Noise Gate, enhancer and compressor/de-esser. The R-4 records to an internal 40 GB hard drive and offers storage capacity for 58 hours of 16-bit/44.1 kHz stereo recording or more than 17 hours at 24-bit/96 kHz.

The unit includes input and output options such as four XLR/TRS combo microphone jacks with phantom power; RCA analog output; S/PDIF coaxial input and output; stereo mics; speakers; and a USB 2.0 connection for drag-and-drop access via a computer.

The Pre-Record function captures up to 29 seconds of audio to the buffer before the record button is pressed, which allows users to press Record after they hear what they want and still capture the material they really wanted.

Additionally, Edirol offers the CS-50 stereo mic and HSC-R4 hard-shell travel case as accessories for the R-4.

The R-4 retails for \$1895.

For more information, contact Edirol in Washington state at (360) 594-4273 or visit [www.edirol.com](http://www.edirol.com).



## SSL Has Version 2 Software For C100 Console

Solid State Logic is offering Version 2 software for its C100 digital broadcast console, which the company says is intended for broadcasters and features improved I/O capacity and 5.1 features.

TouchPan provides 5.1 panning access from the central touchscreen, with color-coded displays and control of surround parameters. The company says this addition eases setup and control for 5.1 productions.

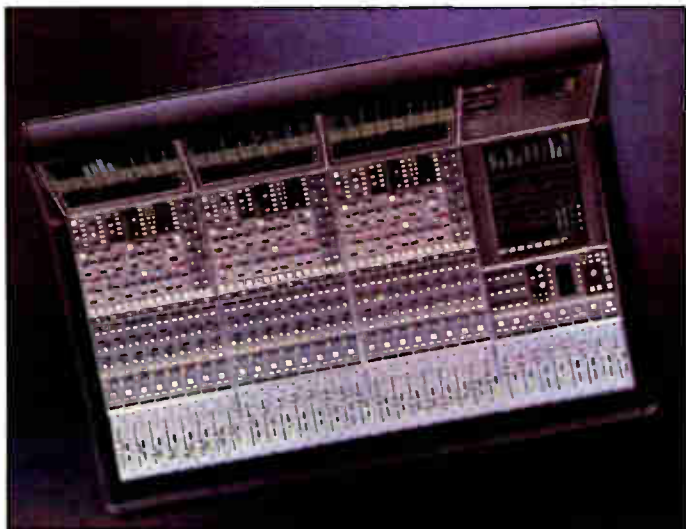
TFT Graphics offers per-channel display of processing, panning and source allocations.

Version 2 supports I/O expansion for the Centuri core, which the company says doubles the mic input capacity within the processing chassis and provides a one-box solution for space-critical remote trucks and studio facilities.

Expanded cue-feed options provide foldback features including conference-type functions, which enable a talent's foldback to be toggled between a designated "cue" signal and the mix minus signal allowing off-air dialogue between segments. Logic functions allow for the programming of fader and aux logic for automatic cue or record feeds.

Additionally, V2 offers support for 44.1 kHz native sample frequency operation, which improves interfacing quality for audiophile radio projects like classical music stations.

For more information, including pricing, contact Solid State Logic in New York at (212) 315-1111 or visit [www.solid-state-logic.com](http://www.solid-state-logic.com).



## Comrex Access Has BRIC, Delivers on Internet

Comrex has debuted its Access wideband audio codec, which uses what the company calls Broadcast Reliable Internet Codec, or BRIC, technology and works over most data networks. The company says using the public Internet to deliver real-time audio could equal cost savings and convenience for remote audio delivery.

Access is available as a rackmount or standalone unit, and offers a stereo mode, which the company says performs well when used on managed data networks.

Tom Hartnett, technical director for Comrex, was to present a white paper on BRIC technology at NAB2005 entitled, "BRIC Technology — Responding to the Changing Telecom Industry With Reliable, Real-Time, Broadcast Audio Delivery on the Public Internet."

He said because of changes in the existing telephone infrastructure, this technology could replace current ISDN and POTS audio codec transmission methods within the next couple of years.

The paper explained how telephone networks have enabled radio broadcasters to broadcast from remote locations with high quality, but that telephony is moving away from circuits traditionally used by broadcasters. New access options are becoming available for remote access to the Internet, but due to the congestion issues of internet transmission, audio delivery on these services has been disappointing.

BRIC technology, Comrex says, enables broadcasters to use commonly available Internet access points to broadcast real-time audio. Access is capable of using circuits like DSL, cable, POTS and Frame, as well as wireless circuits like Wi-Fi, 1XRTT, EDGE and 3G data networks.

For more information, contact Comrex at (978) 784-1776 or visit [www.comrex.com](http://www.comrex.com).

## SLS Offers S8R Monitor As Standalone PS8R

SLS Loudspeakers debuted an addition to its Studio Reference Series.

The PS8R uses Evenstar Sigma-Delta digital amplifier technology and provides studios with the S8R ribbon-equipped reference monitor as a standalone, bi-amplified nearfield monitor system.

The company says the amplifier in the PS8R powers the S8R drivers with good headroom, damping and uniform response. The amplifier's topology lowers harmonic and intermodulated distortion, it says, and increases bandwidth. It also is lightweight and produces low heat.

Two power supplies are included to minimize crosstalk and deliver power supply rails for high-frequency and low-frequency amps. Additionally, a balanced receiver and a two-channel active crossover allow flat response and accurate time alignment. The company cites frequency response of 44-20,000 Hz +/-2 dB.

The low-frequency amp delivers 180 Wrms of output power to the eight-inch woofer with an integral phase plug, while the high-frequency amp yields 40 Wrms to drive the PRD500 five-inch ribbon driver. Maximum SPL is 110 dB at 1 m. SLS says a dispersion angle of 120 degrees horizontal/30 degrees vertical allows for a smooth wide-area listening zone.

The PS8R also features a third order sub-sonic filter to reject extreme low-frequency energy, and a selectable second order 80 Hz high-pass filter for low-frequency channel is available when using the PS8R with an additional subwoofer.

Balanced inputs with adjustable sensitivity help maximize signal transfer, while the LED status indicator shows operational status for power, protect, peak and standby at a glance. Enclosure area is 19 inches high by 10.5 inches wide by 12.38 inches deep.

For more information, contact SLS Loudspeakers in Missouri at (417) 883-4549 or visit [www.slsloudspeakers.com](http://www.slsloudspeakers.com).





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Ampex AM-10 mixer in operating condition. Bill Cook, 719-687-6357.

On-Air analog console, minimum 6 input stereo, less than 10 years old. Email: robertcharleswilkinson@hotmail.com.

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## ◆ READER'S FORUM ◆

### HD Radio Scoreboard

The Jan 19 issue has a BE advertisement that lists stations broadcasting in HD using Ibiqity's technology on BE products. Unfortunately, it lists Clear Channel as having WGST(AM) in Atlanta on HD Radio using BE. While this is planned, WGST is not yet operational using Ibiqity.

I also should note that Clear Channel has WWVA(AM) and WLTM(FM) on the air in HD and is aggressively rolling out other stations nationwide, using several manufacturers.

*Benjamin Brintzer  
Regional Vice President, Engineering  
Mid South Region  
Clear Channel Radio  
Charlotte, N.C.*

*RW Editor-in-Chief Paul McLane replies: The Radio World HD Radio Scoreboard, published in alternating issues within our HD Radio News section, is compiled by our editorial staff using data supplied by Ibiqity.*

*The scoreboard is not an advertisement, although it contains an ad at the top. The content is not controlled by the sponsor, nor is the list intended to imply that the stations are all using that sponsor's products. But as the author points out, this distinction may not have been clear to readers.*

### American Beauty

RW ran pictures of a restored Collins 300-G AM broadcast transmitter ("Restored Collins 'Beauty' Now Resides in Maryland," March 2). I see your Collins 300-G and raise you one!



KFMO(AM) in Park Hills, Mo. signed on the air July 4, 1947 with the very Collins 300-G shown here. It still serves as a reliable stand-by transmitter to the seemingly diminutive Harris SX-1A standing next to it.

*Greg Camp  
Program/Operations Director  
KFMO(AM)/KDBB(FM)  
Park Hills, Mo.*

### AM Bandwidth Reduction

I acknowledge and respect Clear Channel's decision to restrict the bandwidth of their AM radio stations. I however do not agree on two issues.

First, there now appears to be a move-

ment to restrict the bandwidth of all AM stations across the board, nationwide. Whether or not there is an IBOC agenda behind this idea, as I read another engineer comment, one company cannot or should not dictate what the rest of the industry should do.

If Clear Channel wanted to restrict the bandwidth of its AM stations, it was within its rights to do so, with whatever reasoning it may have had. However, I feel that any discussion to expand this bandwidth restriction to stations other than those of Clear Channel's is a senseless waste of time. If it developed into anything more than mere conversations, I would have to agree with a reader who commented that there were other intentions behind this movement, mainly that of making IBOC look attractive.

As it was in the case of Clear Channel, it is obviously a decision of the individual company to do so based on their own analysis, goals, whims or ideas.

The other issue about which I am tired of hearing and reading is the claim that AM radios have the worse bandwidth of any other technology on the planet. As a systems engineer recently commented to

Radio World, there are a myriad of AM radios in the market today that go out to bandwidths far beyond those that are claimed by many who see AM as a technology on a respirator.

Fact is, four out of the five radios I own have bandwidths that go out to 7 kHz — in one case, 8 kHz. AM radio may have its share of problems, but receivers with bad bandwidths do not fall on the list. If you have not yet heard an AM radio with good bandwidth, look for the Walkman and boombox variety by manufacturers like Sony, Panasonic and GE. Audio supply stores are usually good at letting you listen to a few radios before making a purchase, so listen to a few.

Personally, I would not want my stations sounding slightly better than telephone conversations on many of these radios.

*Peter Polanco  
Chief Engineer  
Radio Vision Cristiana  
Paterson, N.J.*

### How to Submit Letters

Radio World welcomes your point of view on any topic related to the U.S. radio broadcast industry.

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Include your name, address and contact information, as well as the issue date and your job title and company if appropriate.

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**Gary O. Keener**  
Consultant  
Keener Technical Services  
San Antonio, Texas

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## GUEST COMMENTARY

# Let's Debunk the Tower-Kill Myth

*Is the Outcry Over Bird Tower-Kills an Issue Of Ecological Preservation or Desirable Aesthetics?*

by Frederick M. Baumgartner

Some time ago, I penned a guest editorial sharing the experience spending my younger years in the shadow of what has come to be known as the worse bird tower-kill incident in recorded history ("The Myth of the Tower-Kill Bird Massacre," Feb. 1, 2003).

To be fair, there probably was a real incident; but as I mathematically proved, to my satisfaction anyway, there was also more than a fair amount of exaggeration in the retelling by those dedicated to preserving the avian population.

Maybe as many as a hundred songbirds were killed one foggy 1974 night in Eau Claire, Wis. That morphed into tens of thousands of much larger birds in the retelling. Where exaggeration becomes untruth I am not willing to say. The world needs a tall tale or two. Eau Claire is the home of the Paul Bunyan logging camp, after all, and the Great Lakes are his footprints.

Still, we don't make public policy based on the footprint story.

## Burden of proof

With WT Docket 03-187, the FCC went back to the birds, and sought public comment on a preliminary report from Avatar Environmental that equates tower heights, lights and poor seeing conditions with migratory bird tower kills, but fairly notes that more is unknown than known. Avatar is a small Pennsylvania firm that does environmental approval work, and prepares Environmental Impact Statements (EIS) as a business.

The site points to their broad expertise, but there are no supporting résumés of staff or specific claims posted that I can find. Okay, that kind of specificity is more an engineering thing.

The company has been in business since 1999 and lists 11 projects and 12 risk assessments. From the lists, one might conclude this is its first involving the FCC and towers, though wetlands — and, I presume, birds — are claimed proficiencies. In all honesty, this is probably the right-sized firm with the right kind of mission for this analysis, and while there are "tower" and "bird" experts, I am unaware of anyone with proficiencies in both, unless it is something a group like Avatar can master.

If bird kills are as rare as broadcast engineers seem to think — or rather fail to observe — then gathering statistically significant data is going to require a good deal of resources and a healthy sample pool and period.

The few ornithologists with whom I have spoken will agree, without attribution, that inspecting a hundred towers every day for a year is statistically unlikely to produce evidence of a mass kill, though guesses as to how many individual kills might be detected vary from a few dozen (towers act like a big screen door model) to thousands (something attracts birds to die at towers, the [www.towerkill.com](http://www.towerkill.com) hypothesis).

But that is why the FCC contracted Avatar to determine the answer. Done right, this can be good. Absolutely nothing less than first-hand statistical data,



Baumgartner says images such as this along with statistical data are hard to come by, but are necessary in tabulating accurate numbers for bird tower-kills. These birds were found at the base of an 850-foot tower in 1999 after Hurricane Andrew.

with photos and bodies, is required — or I'll write another editorial.

I did receive a fair amount of response from that last editorial. Lots of laughs and applause from the broadcast engineering side, and some moral indignation from others; I received pictures of towers without dead birds but not one with a dead bird. On [www.towerkill.com](http://www.towerkill.com), they have several maps of towers, but no pictures. Because broadcast engineers who spend time at towers generally have not seen a large number of birds killed by the tower, whatever evidence they offer must be considered biased.

If there is a conspiracy in broadcast engineering, this must be it.

## Restoring nature or aesthetics?

Somewhere, somehow, sometimes, birds fly into towers and die. Second, killing any living creature has its critics; though many feel that animals killed for food or to stop the spread of disease, or ones that look ugly like insects and spiders and snakes, might not deserve the same level of protection.

Tower kill stories seem to center on songbirds. Had these been buzzards or seagulls, or SARS- or influenza-carrying birds, opinions would likely vary.

Bottom line, we can agree that birds hitting towers is worse than birds not hitting towers. But we have no idea how to fix it, short of taking down the towers. One would think bird watchers and lovers would be visiting each tower every morning with a camera and click-counter; and the mass of statistical evidence would point to the combinations of lights, heights, widths, locations, etc., to avoid; and the tower industry would responded

by testing tower mount scarecrows, hypersonic whistles and covering towers with bubble wrap and pie tins.

Our society has simply failed to respond at this level, as obvious a threat to the ecology as it might be.

Let's grant that this has nothing to do with our society suddenly finding towers

a power plant that finds it expensive to remove pollutants can pay another industry where the same pollutant can be reduced more economically. In the end, the problem pollution is reduced as desired, and with the desirable economies of the free market.

Few doubt that cats eradicate more birds than towers. The question is, how many more? Estimates suggest that fatality by cat is somewhere between 1,000 and 10 million times more likely for a given bird than demise by tower. Likewise, we hunt certain migratory birds, poison certain unpleasant birds and give kids BB guns.

If this is truly about restoring the balance of nature, I suggest the radio industries fund certain bird-credits to offset and maybe even reduce bird casualties beyond the havoc triggered by towers. If as an industry we promote and underwrite bird-bells for cats (worn by a cat, a bird-bell alerts birds of a predatory approach), and provide other credits such as buying back migratory bird hunting licenses (season football tickets in trade for a hunting license?), we can probably reduce bird mortality more dramatically than simply taking down towers.

Likewise, as an industry, we need to take this seriously. If every engineer took a camera and walked around the tower or checked a better sample area like the roof on every daylight transmitter visit, we could collect the statistical data necessary to determine what tower conditions result in mass bird eradications — and broadcast engineers would be healthier for the exercise. That knowledge would enable intelligent and necessary modifications to reduce tower kills.

Of course, if this is really about getting rid of unsightly towers, and not saving birds, the FCC will have less interest in this proposal than they do in community broadcasting. The truth is out there, and we'd like to know what it is.

The author is a frequent contributor to *Radio World*. 🌐

## HD Can Be a 'Household Word'

I agree with the comments in a Reader's Forum guest editorial ("Reis: HD Radio Has a Marketing Problem," March 16) that HD Radio is in the "early innings" of its marketing challenge. However, I disagree with his analysis and suggestions for making HD happen for the consumer.

This is not a supplier issue. This is not a technical issue. This is an issue that speaks to the future direction of our industry. As such, it is the responsibility of every broadcaster in every city to address this issue. It's in our own self-interest. We cannot hope to be successful if we fob off the responsibility to a small company that has spent the last decade working in relative obscurity to develop this platform.

It's up to us to use it and to create with it.

That means each station's management should already be thinking and acting on a plan that consists of installing the necessary equipment, and developing marketing strategies that make audience members aware of the benefits of HD.

We must not and will not let this technology go the way of AM stereo or FM Quad. HD has the potential to be a platform that transforms our industry. However, its success is up to each one of us.

Is it expensive? Yes. Is it easy? No. Is it necessary? Absolutely.

Radio can't afford to let this technology arrive stillborn. We have to win the battle for the car dashboard. But we broadcasters have not yet begun to effectively promote HD Radio.

The time has not been right; we have been waiting for the right moment when sufficient stations are broadcasting and there is a selection of receivers available to the average listener. 2005 is the year when these pieces will come together, and we broadcasters will lead the charge. We can make HD a household word.

But we must have the determination and take our future in our own hands.

Peter Smyth  
President/CEO  
Greater Media Inc.  
Braintree, Mass.

## ◆ READER'S FORUM ◆

## Hats Off to NPR Engineers

I wholeheartedly second the comments made about the contributions NPR has made to the broadcasting industry and to the art of radio broadcast engineering ("A Thank You to Public Radio Engineers," March 2).

Many years ago when I was the vice president of engineering at the Mutual Radio Network, I worked closely with NPR engineering management on many important issues and served with them on the National Network Transmission Committee, learning from them all the while. There, all the radio networks worked with AT&T to achieve better long-line quality. (Longtime NPR engineering head Mike Starling also is a Mutual alumnus.)

While the other networks made important contributions, NPR had the data and research to show what improvements were necessary. They also led the industry in training, not only their own staff, but the engineering and production staffs of their member stations across the country.

Years later, when I was audio training manager for the NBC TV network, I had the pleasure of teaching in the renowned NPR recording workshops for two years. Many industry luminaries taught in those workshops. While hesitant to mention any in fear of leaving good folks out, names like Dave Moulton, Ed Green, Neil Muncy, Steve Barbar, Paul Blakemore, David Glasser, Roy Pritts (recent AES president) and Russ Berger come to mind.

Sadly, those days when the NPR training department did such wonderful things are gone; but their engineering is still the best. I remember when they changed from their analog C band satellite transmissions. I couldn't imagine why they would spend the money, as their service already was the best I had ever heard. That conversion to digital brought amazing improvements.

I can remember presentations at AES conferences where NPR demonstrated the changed frequency response when a popular condenser mic was mounted from the bottom or hung from overhead. If I remember correctly, RW writer and my friend Skip Pizzi made that presentation. Skip also was a major part of NPR's training operation.

NPR's consistently high-quality audio,

no matter where in the world it originates, makes me proud to have been a radio engineer. Politics, both national and internal, have affected NPR engineering and training over the years, but from their Russ Berger-designed state-of-the-art studios in Washington they continue to lead the way and raise the bar for everyone.

One could easily fill a book with NPR's engineering stories — and I wish someone would. Like public broadcasting's programming, our radio world would be pretty ordinary and dreary without those NPR engineers whose goal in life is to make it better, clearer, quieter, more accurate and phase coherent. My hat's off to them all.

Terry Skelton  
Military, Government  
and Aerospace Manager  
Clear-Com Communication Systems  
Santa Fe, N.M.

## Patent Holder's Loss

Tom Hartnett's otherwise well conceived and well expressed sentiments ("The Trouble With Patents," Jan. 5) sadly omit one salient point: The existing situation is, in reality, the opposite of what he's surmised.

Today, due to cost of enforcement, it's the patent holder who loses. It's just too costly to enforce patent rights.

In fact, this situation has produced a cottage industry whereby business firms, for a piece of the action, will take on the matter of legal enforcement of your patent, at their expense if you haven't the dough nor the time to do so yourself.

Oliver Berliner  
SoundDesign Engineers  
Bozman, Md.

## PC Language Pollution

Editors should know as well as anyone that there is and always has been a completely correct solution to the use of gender neutral pronouns in classical English ("Is Ey Offended? The Heck With Em," Feb. 2). That is, the male gender pronoun is used when the subject gender is unknown or generic. I thereby disagree with the last sentence in Paul McLane's ninth paragraph: "And we are far beyond using the male pronoun for all generic references that could apply to both men and women."

## Radio's Key Question

Terrestrial broadcast radio finds itself at a critical juncture. We are faced with an increasingly fragmented audience, with satellite radio and personal audio devices playing an ever-greater role.

Satellite radio has been on the minds of terrestrial broadcasters since its inception, and rightly so, especially where it threatens to expand from its stated purpose as a national service and encroach into the territory of terrestrial broadcasters by providing local inserts. But that is just part of the picture.

It has become easy for just about anyone to choose a playlist of favorites, download the clips from online services or take them from CDs and load them into his or her iPod for enjoyment throughout the day. Those who take advantage of this technology become their own program directors, rejecting over-the-air offerings for their own compilations.

Some broadcasters have made good efforts to deal with these threats, either providing programming to satcasters or offering downloadable services for iPods and other personal audio players. WTOP in our nation's capital, for example, offers downloadable "Podcast Updates" via its Web site, making the day's news, sports and weather available to commuters via a portable medium that works even in Metro tunnels. Music programmers, meanwhile, are responding with iPod-influenced tweaks to their formats, touting that they are "throwing out the rules" and playing a broader mix of music. About time, too.

But are terrestrial radio's best efforts to date enough to hold our stations' audiences? The question must be answered by each station.

"What does your radio station offer that satellite radio and personal audio devices do not?" That is the real question, one that will be answered by the listeners, who vote with their ears and then their fingers on the On/Off button.

Today, more than at any time in the history of our industry, we must be *different and better*. No longer are our audiences without options in the car and office. We must know our audiences, understand their listening desires and needs, and work to meet those needs.

We must differentiate ourselves from the alternatives by striving for excellence in those areas where satcasters and personal audio devices cannot compete, namely localism in its many forms. That may mean more local news, sports and weather. It may mean more and better coverage of local items of interest. It could also indicate a need to program to local music tastes rather than subscribing to national formats and playlists. And for sure it means less clutter.

And it means that we have to sound better. That means we have to move into the digital world, whatever form that may take for terrestrial broadcasters. HD Radio is off to a great start and is gaining momentum, particularly on the FM dial. If this is the direction we as an industry are choosing to go, we must aggressively embrace it and dive into the new technology. We can't just wait, citing a lack of receivers in the market. We must help create that market.

Sounding better is even more important for AM, which has inherent quality limitations to begin with. Whether it is HD Radio or some other technology, AM has a narrow window of opportunity in which to act. If we wait too long, the staples of AM radio will likely make their way to the secondary audio channels of FM HD Radio stations, and AM as a viable medium could disappear. AM has got to get aboard, 24 hours a day.

We have to be different and better, making our stations indispensable to our audiences, and we have to do it quickly. So, what's your answer? What does your radio station offer that satellite radio and personal audio devices do not?

— RW

Please feel free to use he, him, his, etc. with impunity, and tell complainers to go back to middle school English class. This PC pollution of our language does no one any real good.

In fact, Tom McGinley's complaint (about the use of gender-neutral or pejorative pronouns) clearly illuminates the fatal flaw of this grammatical pandering — the desired message was obfuscated,

not enhanced. While your heart is in the right place, I think we should all go for clarity, brevity and efficacy in communication. Sticking to time honored grammatical rules helps this — making up rules does not.

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## Radio World

Vol. 29, No. 11 April 27, 2005

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## NEXT ISSUE OF RADIO WORLD MAY 13, 2005

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Radio World (ISSN: 0274-8541) is published bi-weekly with additional issues in February, April, June, August, October and December 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 Emmily Wilson, P.O. Box 1214, Falls Church, VA 22041; (703) 998-7600; Fax: (703) 998-2966. Copyright 2005 by IMAS Publishing (USA), Inc. All rights reserved.

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