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Tower Kills Questioned

Crop circles? Bird kills? They sound a lot alike to Fred Baumgartner.

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The Nation's Station

An exciting audio project revives memories of Cincinnati's WLW and radio's Golden Era.

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Radio World



\$2.50

The Newspaper for Radio Managers and Engineers

February 1, 2003

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▼ Autogram and RW send an AutoClock to a reader in our new giveaway.

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35 Groups Embrace HD Radio

LAS VEGAS Approximately 35 owners plan to convert 300 stations in 40 markets to in-band, on-channel digital broadcasting this year, many by the end of February. Proponents hope to have as many as possible operating by the time "HD Radio" receivers begin to reach stores this spring.

HD car tuner prototypes from seven manufacturers and two home radios were displayed at the Consumer Electronics Show here. Kenwood and Audiovox showed tuners, with Kenwood predicting shipments to retailers in April or May.

"We exceeded all of our expectations," said Ibiqity Digital Corp. President/CEO Robert Struble. He expects roughly 300 stations to transition in '03.

Many groups with investments in Ibiqity are converting at least some stations this year. Among them are Infinity, Clear Channel, Entercom, Radio One, Hispanic Broadcasting, Susquehanna, Bonneville, Spanish Broadcasting System, Beasley, Journal and Buckley. Greater Media plans to convert as many of its 19 stations as possible this year.

A full list is at www.rwonline.com.

— Leslie Stimson

Koor Tower Case Could Set Precedent

New England Tower Ruling Is Viewed as A Big Win for Broadcasters

by Randy J. Stine

LEBANON, N.H. Broadcasters who want to erect new towers are encouraged by a court ruling in New England.

A ruling by the New Hampshire Supreme Court rejected a city zoning ordinance limiting the height of new communication towers to 42 feet. Tower industry observers say the ruling could

aid broadcasters in other states facing resistance to new tower projects.

Some observers consider this a precedent-setting ruling. For the first time, they say, a state's high court has held that, under some circumstances, the FCC's assignment of a construction permit to serve a community pre-empts that area's attempts to prohibit broadcast

See RULING, page 6 ▶

On the San Francisco Beat

KQED Puts 29 HHB PortaDiscs to Work. Page 28



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NAB Lobbyist Moves On

WASHINGTON NAB's chief lobbyist, Jim May, was slated to begin his new job as president and chief executive officer of the Air Transport Association this month.

May was been executive vice-president for government relations at NAB for nearly 20 years. He came to the broadcaster's association from the Grocery Manufacturers of America.

NAB President/CEO Eddie Fritts congratulated May.

"Under Jim's leadership, NAB Government Relations became a catalyst

for energizing our grassroots membership, and NAB is regarded as one of the most effective lobbying operations in Washington. Fortunately, Jim leaves the department in excellent shape, with a first-rate team of highly regarded professionals."

Ownership Easing Sought

WASHINGTON NAB believes there is justification for the FCC to repeal several broadcast media ownership rules.

"Given the much less dominant position of local broadcasters in today's

media markets, the retention of a thicket of broadcast-only local ownership restrictions in their current form is increasingly outmoded and unjustified," stated NAB in its comments to the commission.

NAB suggests the FCC should structure its local ownership rules so that traditional broadcasters and newer programming distributors "can all compete on an equitable playing field."

The rule that bans one entity from owning radio and TV in the same market is no longer needed, NAB states, especially with both media facing "unprecedented" competition from cable, DBS, and satellite and Internet radio. This, it argued, is especially true if the commission retains the local radio ownership limits — allowing up to eight stations in a market — and the TV duopoly rule in their current form, as NAB has recommended.

NAB believes the FCC should leave unchanged the local radio ownership limits and as well as the definition for defining a radio market, "given the lack of reliable evidence in the record that increased ownership concentration has caused significantly higher advertising rates."

The association states that studies show even big consolidated radio groups cannot exercise undue market power "due to the volatility of ratings and audience shares received by radio stations, declining listening shares earned by even market leading stations, and increased competition from a variety of media outlets."

Reply comments are due Feb. 3.

NLRB Complains About Infinity

DETROIT The National Labor Relations Board has served an unfair labor practices complaint against Infinity Broadcasting in Detroit, stating that reasonable cause exists to believe that the employer's actions have violated the National Labor Relations Act, which guarantees the right of employees to organize and to bargain collectively with their employers.

The union stated that during collective bargaining negotiations on the station broadcast agreements for WXYT(AM) and WWJ(AM) with American Federation of Television and Radio Artists in May, Infinity refused to allow bargaining unit meetings to take place on the station's premises.

AFTRA said this was a change from previous practice, and, "As a result of this action, AFTRA was compelled to conduct meetings with employees on the sidewalk in front of the station," said AFTRA Local President Steve Goldsmith.

The previous January, WXYT employees voted in favor of joining the bargaining unit of Newsradio WWJ, which has been working under an AFTRA contract since 1996. The WWJ/WXYT technical employees also voted unanimously in favor of AFTRA representation. However, both contracts remained unsettled on a variety of issues, including wages, and negotiations are ongoing.

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TECHNOLOGY FOR MANAGERS

Radios: Return of the Knobs

by Leslie Stimson

Three years ago, before the dot-com bust, some radio manufacturers were predicting that soon consumers would want to surf the Net and have their e-mail read to them in their cars. These capabilities could be built into the car radio.

Indeed, the cover of Radio World on Jan. 19, 2000, included a story with the headline, "E-Mail? Web? Your Car Radio Will Do It All."

Now radio futurists are rethinking those predictions. Many instead believe that reducing distraction in the cars is a must and can be achieved through several ways. Some manufacturers are bringing back big knobs, as buyers have told them the radio buttons are too tiny to manage, especially in a moving vehicle.

User-friendly

Most receiver makers who spoke with Radio World for this story say they're working to make car radio displays brighter and ensuring those displays convey vital information to drivers in a way that's easy to understand.

Why focus on car radios? Because despite the proliferation of personal music devices such as cell phones and other personal devices that carry FM radio signals, most radio listening in this country is still done in the car, the experts say.

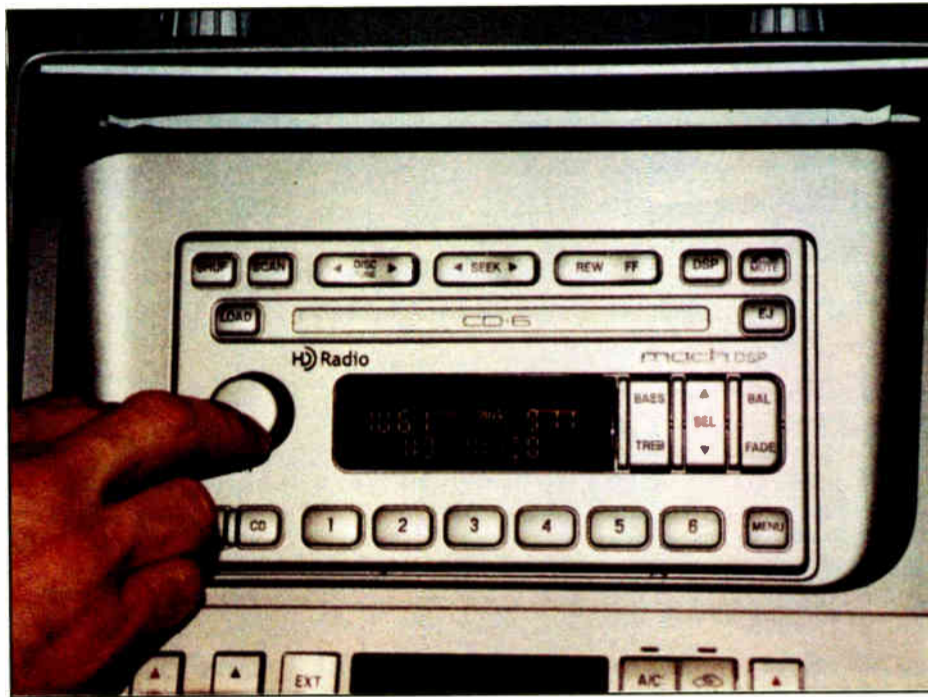
'The U.S. is so big it's a challenge to put up an infrastructure.'

Receivers that can play regular compact discs as well as CDs that contain downloadable digital music file formats such as MP3 files or competing formats such as RealMedia or Windows Media files are a growing trend among the Generation Y crowd, ages 12 to 25. These young people are the typical buyers for what the industry calls "aftermarket" radios. The receivers are purchased mostly by youth when they buy used cars and want to upgrade the radio.

The other type of car radios are factory-made receivers already in the dash when someone purchases a new vehicle. Trends discussed here hold true for both kinds of radios.

Kenwood USA Vice President of Mobile Electronics Bob Law said one of the most popular Kenwood radios includes the AM/FM bands and a CD player that can play MP3 files; it retails for around \$300.

Alpine Electronics of America Vice President of Brand Marketing Stephen Witt said consumers don't want to limit themselves and are buying radios that have the capability to provide a certain function to the buyer later. For example,



Visteon is developing HD Radio-capable in-dash receivers for the 2004 auto model year. This is an early production model.

even though many buyers this year may not have bought a satellite radio, they purchased one that had the ability to have that function added later, the so-called "satellite-ready" radio.

He said units that do not have the ability to add satellite later are slower sellers. The same concept applies to home receivers, he said.

Receiver makers and automakers spend much time researching a concept before placing it in a car radio. This process continues for the concept of a radio that allows the driver or, more likely, a rear-seat passenger to search the Web or have e-mail read aloud.

Several obstacles remain for these concepts.

The cost of developing the infrastructure to bring the Internet to a car is one impediment. Witt said robustness of a radio frequency connection and the stability of the data signal "is not yet adequate to provide a reliable and satisfying connection" in a moving vehicle.

"You can't make promises to consumers to do this from the back of an SUV and not support it," he said. Tests so far show performance limitations in moving cars.

Michael Townsen, vice president of marketing in the mobile entertainment division of Pioneer Electronics USA, agreed.

"The technology is there but the infrastructure is not in place. The U.S. is so big, it's a challenge to put up an infrastructure" across the country.

Matt Swanston, spokesman for the Consumer Electronic Association, said it remains to be seen whether the way we use the Internet in our homes will be the way it gets used in the car. Web browsing away from home seems to be moving toward personal digital platforms such as a Palm Pilot or an enhanced cell phone rather than the dashboard, he said.

Several sources said that while voice-recognition technology is used in car navigation systems, transferring that ability to a car radio would take time.

General Motors has learned this with its OnStar product, the two-way communication feature in many of its vehicles.

our radios rather than pressing buttons, Tom Grau, business development manager for satellite radio services at OnStar, said. "We're constrained by all the commands needed to change the station."

Imagine, he said, a machine trying to distinguish the driver's voice from several others in a car. The electronic brain must decide which voice takes priority when several people are speaking at the same time.

No confusion

A human would need to think of commands to even get the radio's attention, and then know what to say to achieve the desired change.

Satellite digital radio is doing well in receiver sales, sources said, and they predict HD Radio also will do well. Satellite reportedly has helped make consumers aware of radio as a product category again.

Also, satellite radio appeals to a wider age range than traditional radio-buyers, pushing the upper limits to around 54.

Vicky Scrivner, president of the Mobile Electronics Retailers Association, believes HD Radio will help retailers sell more radios, as satellite has done. Asked whether there could be confusion caused by the need to purchase different radios if someone wants to listen to satellite digital radio or HD Radio, she predicted it would be "no problem" for retailers to educate consumers about the difference.

MERA retailers differ from so-called "big box" houses such as Circuit City or Best Buy in that they sell only audio equipment, she said.

With OnStar, people in the car are linked with personnel in an emergency communications center. OnStar people can arrange for an ambulance to come to the scene of an accident or give directions or book a hotel room.

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FROM THE EDITOR

WVXU Honors 'Nation's Station'

by Paul J. McLane

Radio history buffs owe a deep debt of gratitude to public station WVXU(FM) for its audio documentary, "Cincinnati Radio: The Nation's Station (1921-1941)."

This stunning compilation consists of a two-CD history telling the story of station WLW, the Crosley Radio Corp. and founder Powel Crosley Jr. The program is narrated by Leonard Maltin.

The collection is not just another nostalgia program but an addition to our understanding of the importance of WLW and of Cincinnati in those years. It is the latest in a series of documentaries produced and funded by WVXU.

Previous productions include "Cincinnati Radio: The War Years (1941-45)," "Red Barber: From the Catbird Seat," "The Moon River Collection" and "D-Day Plus 50 Years," which received a 1994 Peabody Award.

Innovator

"Powel Crosley was the Henry Ford of radio," historian Dr. Lawrence Lichty tells us on the program. "His basic conception was (that) the investment ought to be on the part of the radio broadcaster to have a high-quality, powerful transmitter; and that enabled the public

to buy less-expensive, less-sensitive, less-selective radio receivers — which of course is what the Crosley Corp. manufactured."

would eventually reach a historic, albeit temporary, 500,000 watts.

The people we can thank for this compilation are WVXU General Manager Dr.



Mark Magistrelli, Mike Martini, Dr. James C. King and George Zahn, from left.

As Maltin relates, for two decades the quest for greater power would be the hallmark of Crosley's involvement in radio. In the early 1920s, the power of experimental station 8CR was 20 watts; WLW came on at 50. The station's signal

James C. King, director of radio for Xavier University; he served as executive producer. It was produced by Mark Magistrelli and Mike Martini; Magistrelli wrote the script, transferred the original lacquers and restored much of the audio. Technical Producer George Zahn handled editing and additional audio restoration. WVXU Chief Engineer Jay Crawford led the technical team.

"The Nation's Station" is available to members of WVXU and its XStar Radio Network stations, which cover Ohio, Indiana, Kentucky and Michigan, for a yearly membership pledge of \$12 per month. The collection should be available in retail outlets by the fall, with a likely retail price of around \$65. It includes a beautiful, 40-page booklet with historic photos.

The project was delayed for years by technical limitations and the extensive search for recordings.

"We drew upon over 160 interviews, more than 70 of them done for this project alone," said Martini. "Some of the

people we spoke with had left the business 60 years ago, so tracking them down was quite a challenge. ... Phone or studio interviews were out of the question when dealing with elderly people who sometimes had difficulty with their hearing, so we hit the road and flew from coast to coast to conduct in-person interviews. Most of the people we spoke with ranged in age from the mid-80s to their late 90s."

The compilation helps counter two unfortunate trends: the loss of information as actual participants die; and the fact that radio history often is written by those who lived and worked on the coasts.

"Most of these actors and vocalists felt that, as important as 'the Nation's Station' could be, it was nevertheless deemed a track to something bigger in New York or Hollywood," he said.

Priceless

Among the people and topics you'll hear are Gene and Glenn, Norman Corwin, Red Skelton, Earl Hamner Jr., Eddie Albert, Red Barber, Ruth Lyons and many more. Folk music, harmony acts, comedies, baseball, the 1937 Ohio River Flood and the story of the super-power days of WLW are here.

The cost was substantial, but King told me he sleeps better not thinking about that.

"It's a work of radio art that had to be done before it was impossible to do so. It is utterly impossible to put a cost on this.

"If money was needed for equipment, we found a way to fund it by cutting back on other station projects. In hard equipment costs alone, WVXU has invested well into six figures essentially for this one project. The number of man-hours ... has to be well into the scores of thousands.

"As a public station, WVXU does not have access to large amounts of funding," King said. "Despite this, WVXU has made an ongoing commitment dating back to the early 1980s to do whatever it takes to preserve the cultural essence of early radio history."

The station realizes that the costs will never be recovered through sales of the products, King said.

"If WVXU doesn't do this work, who will? Time is running out on us as

See WLW, page 16

Dan L. Beck, operations manager for Platte River Radio in Kearney, Neb., wins an AutoClock from Autogram.

Dan is observing his tenth year with the AM-FM combo at KKPR, which programs adult standards and oldies, respectively. He tells me the stations enjoyed a record month of sales in December. Congrats!

His prize is a standalone AutoClock that indicates time or date, can work at a stopwatch and can count down from 1 to 32 seconds for fixed countdown timings. It also has a temperature feature with external probe. Daily high and low temps plus the time they occurred are provided. Factory list price is \$399.

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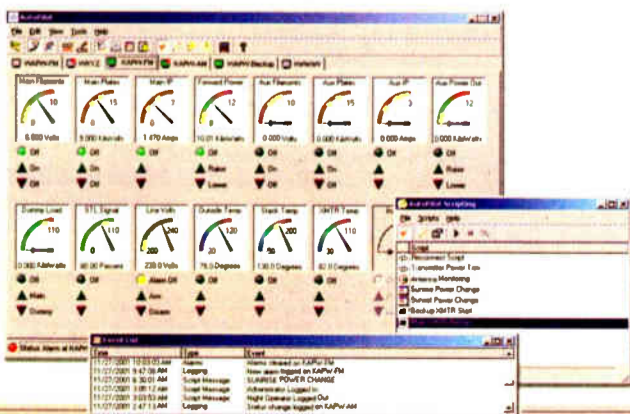
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AFTRA Expands Non-Compete Fight

by Naina Narayana Chernoff

WASHINGTON The American Federation of Television and Radio Artists is campaigning to convince legislatures in every state to ban non-compete agreements.

Some radio and television stations use such agreements to prevent on-air talent and certain other staffers from working for competitors after being fired or resigning. The provisions normally define the geographic area, duration and type of activity restrained.

New law

In December, the District of Columbia joined four states — Arizona, Illinois, Maine and Massachusetts — that have passed legislation in the past five years banning non-compete provisions in the employment contracts of broadcast

AFTRA contends that non-compete provisions are anti-competitive, artificially deflating salaries.

employees. California and Oklahoma have banned non-competes for all industries for some time.

The new law, signed by Washington Mayor Anthony Williams on Dec. 23, prohibits "the enforcement of provisions in broadcasting industry employment contracts that restrict prospective or current employees from engaging in similar employment with another broadcasting industry employer," and imposes "penalties on employers seeking to enforce those provisions."

The law restricts all commercial and non-commercial radio and TV stations, cable and satellite outlets for radio and television in Washington from including non-compete clauses in labor contracts. Independent broadcast service providers, such as traffic reporting services, are included in the law.

Bargaining power?

AFTRA, a union that represents on-air talent, contends that non-compete provisions artificially deflate salaries. The union believes such agreements leave employees with little bargaining power, impeding those who want to stay in a market from pursuing better pay.

According to Dominique Bravo, AFTRA's national director for legal and legislative affairs, broadcasters have other options. They can sign talent to longer contracts, as is done by television and radio networks, or offer rights of first refusal. The latter provision is common in TV contracts. It states that if an employee receives an offer from another station at the end of his or her personal contract, the employer has a period of time in which to match the offer.

In coming months, more local offices of AFTRA will launch campaigns for similar legislation in their states. The campaigns are "grassroots efforts" dri-

ven by station employees who have concerns, Bravo said, adding that the national office of AFTRA assists regional offices and those without access to local offices through the legislative process. "This is dependent upon broadcasters in an area."

Bravo declined to name the specific states that AFTRA plans to target in 2003. She did say the national office might support a possible effort in Pennsylvania to have such a bill introduced.

In January, the Washington-Baltimore office of AFTRA planned to launch a local campaign in Maryland, where many D.C.-area stations operate.

In the District of Columbia, non-compete agreements became a primary concern for the local AFTRA office about three years ago because of the rapid media consolidation that began throughout the country, said Patricia O'Donnell, executive director of the Washington-Baltimore office of AFTRA.

In many cases, she said, companies make employment conditional on the prospective worker signing a non-compete agreement. For on-air news staff, this is a special concern. Because there are usually several other news professionals ready to take a position being offered, "Very few have the authority to say no."

"I don't know of anyone who doesn't have a policy," she said.

In the Washington area, O'Donnell said, stations in Baltimore also began to use geographic restrictions that included the District. Although just 40 miles away, Washington is considered a separate market by Arbitron.

In other parts of the country, contracts for some talent prohibited those individuals from being hired by stations owned by the same company, O'Donnell said.

Several major broadcast groups oppose AFTRA's efforts to ban the contracts.

In 2002, broadcasters with operations in Washington and Maryland, including Radio One and Sinclair Broadcasting, lobbied against the bill, saying it unfairly singled out one industry.

The legislation sends "anti-business" signals, said Chip Weinman, president of the Maryland-D.C.-Delaware Broadcasters Association. "It kills a gnat with a sledgehammer."

Before the D.C. City Council passed the bill in December, Weinman said the association offered to compromise with AFTRA by accepting a provision similar to one enacted by the state of Maine. That provision presumes non-competes to be unreasonable but allows broadcast companies to have a court decide on the enforceability of a non-compete agreement.

Weinman believes this type of provision would give broadcasters the opportunity to prove the reasonableness of a non-compete agreement in court.

A study conducted by the Radio and Television News Directors Association in 2001 showed that, for radio, 19 percent of news directors, 12 percent of news anchors, 4 percent of news reporters and 20 percent of sports anchors worked under non-compete agreements. Most of those at major-market radio stations.

The same study showed that 43 percent of on-air TV employees have non-compete clauses in their contract.

Supporters of non-compete contracts believe the new law in Washington favors companies that have the economic means to pay employees more so they will not leave. Without the ability to use non-compete agreements, stations will be discouraged from promoting talent and investing resources in developing broadcast personalities, said Richard Zaragoza, an attorney and partner at Shaw Pittman, LLP. It's also going to put talent much more in play, he said.

Employers have a valid interest in protecting an employee; the legislation does not take into account that non-compete agreements are a valid way of "protecting protectable interests," Zaragoza said.

The law also ignores the "fact that courts can distinguish between reasonable non-competes and unreasonable ones and issue timely decisions." The law is a "legislative solution in search a problem."

In states that allow non-compete agreements, Zaragoza believes in most cases, employers and employees work out a solution to resolve conflicts about non-compete agreements and avoid going to court.

Local battle

As AFTRA launches its fight in nearby Maryland, Weinman said his association will take up the opposition there.

He said the group welcomes the opportunity to negotiate with AFTRA for

a law that would presume non-competes to be unreasonable but allow stations to have their "day in court and look at the court as the final arbiter. We would be comfortable if there were language that were adopted that was fair and even-handed," he said.

O'Donnell expects AFTRA will face stiffer opposition to the Maryland bill and from more broadcasters than it did in D.C. In addition to Radio One, Clear Channel, Infinity, Hearst, Salem, Bonneville and Cumulus are among the owners with stations in the state. She estimates the effort will take up to a year but is hopeful the bill will pass the state legislature this spring.

O'Donnell thinks the AFTRA bill stands a good chance because the Maryland legislature has a Democratic majority, and because the bill's freedom-to-work approach appeals to Republicans.

For the time being, Weinman said, Washington licensees could decide whether to make changes that would still allow them to use non-compete agreements. He implied that station owners might actually move their studios from the District to friendlier jurisdictions. With many broadcasters reconstructing studios to accommodate digital radio, he said, "What better time to consider relocating?"

"You don't have to be located in D.C. to broadcast a signal," Weinman said. Licensees who find the rule too restrictive may move operations just outside of the city limits to suburban Maryland or northern Virginia, he said.



Millenium Consoles - The NEXT big thing

by
Mark Stennett,
V. P. Engineer
NEXT Media Group

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Ruling

► Continued from page 1
services by using what these observers consider unreasonable land use regulations.

The court rejected a local ordinance in Lebanon, N.H., in December. The court ruled that the city's height restrictions are pre-empted by federal law — in this case the broadcast license and construction permit issued by the FCC.

"We conclude that for anyone seeking to operate a new FCC-licensed AM station in the city, compliance with both the (local) zoning ordinance and federal law is a physical impossibility,"

the court stated.

"Where it is impossible to comply with both, the local law is pre-empted."

The case drew the attention of the Society of Broadcast Engineers, which considered the case crucial at a time when radio and television broadcasters and the wireless industry are battling for additional tower space.

Precedent

The ruling clears the way for Koor Communication Inc. to re-apply for building permits to begin constructing a four-tower array to the height of 266 feet for WQTH(AM). The 50 kW station at 720 kHz is licensed to nearby Hanover.

SBE General Counsel Chris Imlay said, "The decision established that,

where compliance with the terms of an FCC construction permit and compliance with land use regulations (conflict), the FCC's authority is pre-emptive."

Imlay said the ruling in New Hampshire could very well be instructive to courts in other states with similar circumstances.

"Now attorneys representing other broadcasters have a case to point to and say, 'Here is what the top court in New Hampshire said about local zoning ordinances vs. federal law,'" Imlay said.

SBE filed friend-of-the-court briefs on behalf of Koor, which argued that the FCC has exclusive jurisdiction to regulate the technical aspects of broadcasting, Imlay said.

The commission regulates the minimum height of AM antennas to prevent

nighttime interference with other radio stations, said Fred Hopengarten, the telecommunications lawyer who represented Koor.

"You avoid interference by having an antenna system that can guarantee the stability of the signal or pattern. You can't do that with an antenna below the FCC's minimum. As long as federal law is the supreme law of the land ... there is an implied pre-emption over local law," Hopengarten said.

"This was a case of implied pre-emption and the interference question is the underlying rationale," he said.

Fred Baumgartner, chairman of the National Antenna Consortium, an industry coalition formed to fight for the rights of broadcasters and tower owners, said the court victory should have a national impact for an industry battling the not-in-my-back-yard, or NIMBY, mindset.

"The Koor decision is an important reaffirmation of the precedence of federal regulation over a local regulation that would for all intents and purposes prohibits new broadcasters from Lebanon, N.H.

"Unfortunately, there are more communities enacting more and more restrictions making an FCC license almost worthless," Baumgartner said.

CFA cited

Koor first filed for variances to the ordinance in 1999 seeking to construct the four towers to the height of 266 feet in accordance with its FCC license and CP. The broadcaster's attorneys argued that Lebanon's restrictions effectively prohibited the construction of new radio stations. The broadcaster subsequently lost several court decisions, leading to an appeal to the state's highest court (RW, Feb. 1, 2002).

City attorneys pointed to the controversial crossed-field antenna as proof that the ordinance limiting new towers to 42 feet does not prohibit new AM towers from being built. But that antenna design lacks FCC approval and is not used in the United States.

Nearly a dozen existing towers in Lebanon exceed the height restrictions but were grandfathered in when the current zoning ordinance was implemented in 1990, according to court documents.

Bob Vinikoor, president of Koor Communication Inc., said the decision means local zoning prejudice, at least in New Hampshire, cannot preclude a broadcaster from building a broadcast tower.


"We still have the procedural process to go through" before construction can begin, Vinikoor said. "However, the city can no longer use the 42-foot maximum height as a reason to deny our permits."

Baumgartner said the city may not be out of options.

"They could try again with another unreasonable basis for denial of Koor's application ... something arbitrary like the height restriction was," Baumgartner said.

Vinikoor said he expected to address the Lebanon zoning board about obtaining construction permits for the project in January.

Bernard Waugh, the attorney representing the city, declined comment.

Koor Communication also owns WNTK(AM) in Newport, N.H., WNTK(FM) in New London, N.H. and WNBX(AM) in Springfield, Vt. 

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Moving From Now to Wow

Many Technical Advances Have Caused Us to Be Amazed By Things That Were Once Commonplace

Much of what we call progress in recent times has come at a substantial price, rendering the ultimate benefit of the developments dubious. Often these changes have caused a reassessment of consumer expectations, lowering the bar on performance and causing us to place a premium value on things that we previously considered standard.

Consider the local hardware store. When you encounter one of the few good, remaining examples of this once-typical American retail venue today, it's almost a religious experience.

I've attended engineering conferences where the organizers schedule field trips to a nearby store, with no shortage of takers for the tour (and it's not just a guy thing). There is something truly inspiring about the inventory, organization and collective staff know-how in these stores. They are perhaps the last vestiges of classical "Yankee ingenuity," applied to the old school of real, physical hardware.

This is not simply nostalgia or anti-progressive Luddite-speak, but a lament for real value lost.

To remain alive today, these stores are also showing cleverness of a different kind by finding ways to avoid succumbing to the national mega-chains, generally by combining a few modern practices with some solid traditions.

We experience a similar shock when calling a commercial phone number during working hours and a live voice answers the phone. The seeming efficiency of the menu-driven voice mail system is perhaps one of the most dehumanizing and Orwellian developments of the computer age. While it no doubt serves as a great multiplier of commerce, it makes the contact between customer and vendor extremely dissatisfying.

But most of us remember when the telephone was used in business primarily for human conversation, and the loss of this communication mode is no doubt sorely felt by thousands of consumers every day.

Finding a good, non-chain burger joint is another rare thrill. (In smaller markets, this applies to *any* kind of restaurant.) The domination of the fast-food industry by national chains is almost total in the United States today. Like any of these trends, the discovery of an exception makes you feel like you just found a \$100 bill on the sidewalk.

Sadly, the same fate has now befallen the radio industry. So homogenized and nationalized has the product become that the discovery of original, locally programmed content on a radio station often is accompanied by the same sense of consumer surprise. As time goes on, this experience becomes all the more infrequent, and thus even more likely to provoke astonishment when it does occur.

This is not simply nostalgia or anti-progressive Luddite-speak, but a lament for real value lost during the pursuit of

legitimate progress. Clearly there have been improvements made in many of these areas, particularly in cost control. As a result, American consumers have benefited, but what they've gained in buying power may have cost them in other, less tangible ways.

Mixed blessings

For example, most of us can remember a world without cell phones. Today it's great to be able to stay in touch via mobile telephony given the convenience, connectedness and safety it adds to our lives. Yet the pervasive interruptions that mobile phones bring to our daily experience are often unwelcome and uncivilized.

The Big Picture



Photo: Garry Hayes, BBC

by Skip Pizzi

In addition, the garbled audio that lossy compression algorithms typically apply to human speech transmission is

See PIZZI, page 8 ▶

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FEED LINE

Proper Installation Ensures Long Life

by W.C. Alexander

This is one in a series of articles on the fundamentals of FM transmission systems. Earlier articles appear under the Feed Line tab at www.rwonline.com.

Little thought is given to proper transmission line installation in many cases. A bag of cable ties or a box of Wraplock in the tower rigger's pouch is deemed sufficient to secure the line to the tower. Most radio engineers have seen transmission line installations where little more than electrical tape or cable ties were used to secure the line.

While such inexpensive measures will work in the short term, over a period of time, trouble likely will result. Cable ties deteriorate with exposure to sunlight and extreme temperatures, becoming brittle, breaking and falling off. Thermal expansion/contraction as well as other differential motion between tower and line can cause Wraplock to chafe against the outer jacket, often resulting in the outer jacket and eventually the outer conductor being cut through. Once this happens the inside of the line is exposed to the elements.

By the book

Transmission line manufacturers offer an array of mounting hangers, brackets and hardware designed to protect lines from differential motion problems and keep them working properly for many years. In addition to the hardware, line manufacturers publish specifications for mounting hardware, including recommended spacing between hangers for different wind load and radial ice values.

The published values are not simply theoretical numbers or designed to promote the sale of hardware. They have been derived from extensive empirical data — including wind-tunnel testing — and are based on EIA RS-222, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures.

Where a tower is located has an impact on the installation of a transmission line on the tower. Values of *design basic wind speed*, the maximum wind speed at a height of 10 meters over open terrain, are published for counties and states in EIA TIA-222-E. This is a good place to start when considering what hardware to use in a particular installation.

The maximum amount of radial ice accumulation is another factor that must be considered when designing a transmission line installation. Some locations, particularly those in the southern tier of states, are prone to ice storms and large accumulations of ice on tower structures and attachments. Warm, moisture-laden air rides up and over cold surface air and falls as rain. When the supercooled raindrops impact the surface and objects on the surface, they instantly freeze.

It is not uncommon to have an inch or more of radial ice build up on a tower structure, its antennas and lines in such circumstances, greatly increasing the dead weight and cross-section (and thus wind loading) of the tower, antennas and lines.

With the design basic wind speed and maximum expected amount of radial ice in hand, the manufacturer's installation



Proper T/L installation is key to reliable long-term operation.

charts can be consulted to determine the type of hanger which should be used and the recommended maximum hanger spacing for a particular line. The quantity of hangers then can be calculated.

The next step is to determine how the hangers will be attached to the tower structure. Many towers provide mounting tabs to which hangers can be bolted directly. This is the simplest means of attachment, and provides for secure mounting.

Another means of mounting utilizes hose clamps or some other means of leg attachment. The hose clamp, sometimes called a "round member adapter," clamps to the tower leg and to the hanger itself through a slot in the hanger. When using this attachment method, especially with larger diameter transmission lines, some means must be provided to get around the flanges where tower sections mate. Specially made standoff kits are available from line manufacturers to provide a means of getting the line securely past flanges without allowing the line to chafe against the flanges.

Hoisting grips are "Chinese hand-cuff" devices that are designed to attach to a transmission line securely and pull it up the tower without stretching or distorting the line. Typically, one hoisting grip should be used every 200 feet to spread out the load. This helps keep the weight of the line on the load line and off the line itself. Once the line is in place on the tower, the hoisting grips are secured to the tower to provide permanent vertical support.

It is important to "ground" a transmission line to the tower at both top and bottom and in some cases at several locations along the line's length. When lightning hits the tower, high-level currents will flow down the tower in all the available parallel paths, including in the outer conductors of transmission lines.

Because copper has a lower DC resistance than the steel of the tower, greater currents are prone to flow in the transmission line outer conductors than in the tower steel. This often results in significant potential developed between the transmission line outer conductor and the tower itself, resulting in arcing through of the transmission line outer jacket and pitting of the transmission line outer conductor.

In extreme cases, the pitting actually will penetrate the outer conductor, opening the line to the elements and eventually destroying the line. Grounding or

"bonding" the transmission line to the tower at frequent intervals is a good means of keeping the potential between the line and tower low and preventing such damage.

AM towers are a special case. Depending on the feed system, there are several methods of installing a transmission line on an AM tower. In grounded-base (skirted or shunt-fed) towers, the method essentially is the same as with any other tower, except that more frequent bonding of the line to the tower should be done to minimize RF arcs through the line jacket.

There are two basic means of

Pizzi

► Continued from page 7

a fatiguing annoyance. The danger added to driving while using these devices reportedly is an order of magnitude greater than DWI. So on balance, what is the net effect of this development on our quality of life? It's not a simple or uniform answer.

The pursuit of cost-effectiveness above all other parameters is laudable, but not without risk, as we discover more things to cherish in retrospect for the value we never knew they had. The list continues to grow: instant-on light bulbs, real-time sync of live events covered by different media (e.g., satellite, cable or terrestrial TV, and perhaps soon with IBOC radio), plastic packaging that you can open without power tools and/or slicing your fingers to shreds — OK, now I'm just venting at my pet peeves, but I'm sure you can add a few of your own.

Action and reaction

Readers who have lived abroad will recognize that this massive nationalization of culture and commerce is a particularly American trend. Nevertheless, at least in some areas it is becoming internationalized by exportation.

As many U.S. companies saturate the domestic marketplace, ongoing growth requires such movement overseas, and it is likely to continue apace. Expansion of consumer dissatisfaction can be expected to follow, but in some other cultures this will not be as blithely accepted as it often is in mainstream America.

Overall, the ability to do more for less doesn't mean that what's done

installing transmission lines on insulated-base AM towers. If an isocoupler or isocoil is used, installation above the base insulator is the same as for a grounded-base tower. If a quarter-wave stub is used, the line is installed using insulated hangers. In that case, the line is not bonded to the tower at any location below the shorting stub.

Keep it moving

Rigid transmission lines are another special case. Rigid lines are fixed to the tower at the top of the run and mounted in spring hangers for the remainder of the vertical run. A nylon-jacketed collar is provided on each spring hanger to prevent horizontal motion. A spring connects the collar to a clamp that is affixed to the line below the collar. The manufacturer provides recommended settings for the springs to ensure that the correct amount of tension is applied to the line at each location.

The purpose of the springs is to allow differential motion between the line and tower structure because of thermal expansion. A rigid copper transmission line exhibits considerably more thermal expansion than a steel tower. If this is not allowed for, the line will buckle.

In the next installment of this series, we will wrap up the topic of FM transmission lines with a discussion of presurization, maintenance and repairs.

Cris Alexander is director of engineering for Crawford Broadcasting. Contact him via e-mail to crisa@crawfordbroadcasting.com.

will be better — or even just as good. Applying economies of scale is a laudable goal for any business, but loss of diversity and quality is a high price to pay.

Similarly, the pervasive multitasking that new methods of productivity allow implies that everything is done with less attention. Don Davis, a revered mentor of many of us in the audio business, was fond of citing the observation that "the sum total of human intelligence is a constant, but unfortunately, the population is expanding." This facetious axiom seems to actually apply to much of what passes for progress today.

Radio broadcasters follow this path at their peril. The delocalization of content and movement toward new depths of lowest-common-denominator taste criteria may ultimately have the unintended result of marginalizing a once-powerful medium.

This process is not inexorable, however. Stepping back, even by a small amount, toward former practices that were already well-honed could pay major dividends, especially when combined with some of the valuable business practices and infrastructure advantages of the current day.

The lowered threshold of expectation that radio listeners have adopted in recent years can be exploited, making it relatively easy to create a diamond in the rough. Listeners could encounter your station's signal with that same uplifting amazement they'd feel if they walked into a gleaming new Mom & Pop hardware store or burger joint of the 21st century. Wow, what a concept.

Skip Pizzi is contributing editor of Radio World.



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PRODUCT EVALUATION

EAScriber Keeps Your EAS Books

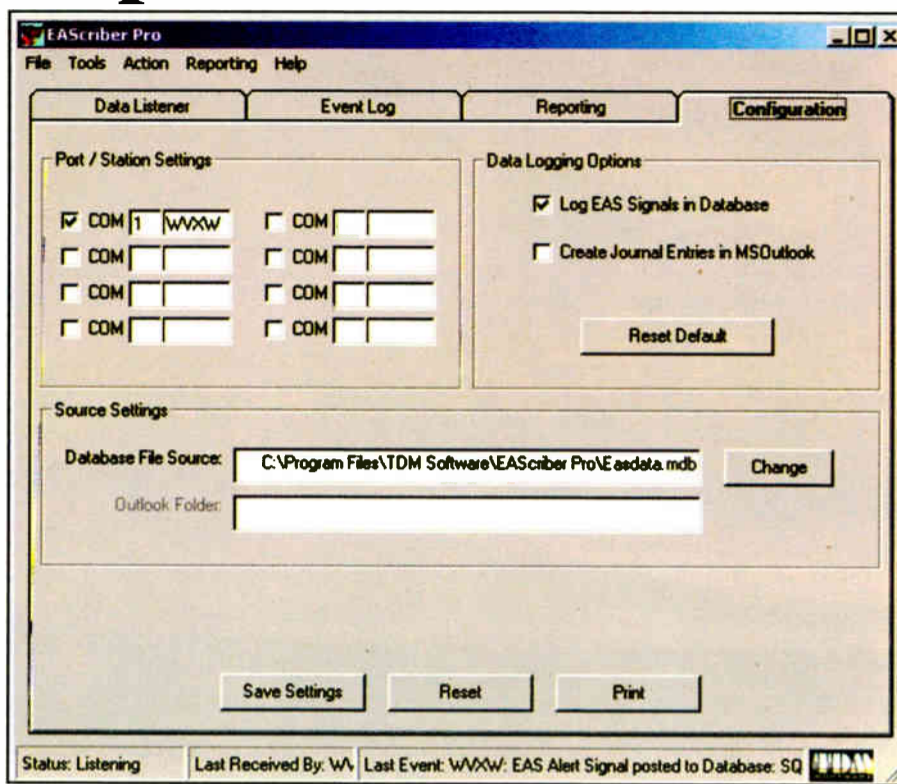
by Jeff Johnson

TDM Software has introduced its EAScriber Pro application designed to automate required EAS logging of up to eight stations. Using a standard serial COM port for each station logged, a single computer equipped with additional serial port cards can satisfy basic FCC-required EAS record keeping of a large co-located facility.

Now functional with Sage ENDEC and TFT 911 EAS equipment, EAScriber Pro is installed easily onto a Windows computer. This review was performed on a Windows2000 Advanced Server with complete reliability.

Configuration is straightforward and intuitive. Any number of stations, from one to eight, are configured corresponding the station's CALL to a particular COM port.

Logging takes two forms. An event log records activities of the software and the connected Sage devices. It is saved automatically, and may be printed. The event log is useful for recording such events as Sage system startups, database postings, and report printing. EAS-specific reporting is available on-screen as well as being saved to a database file viewable in and printable from Microsoft Access. This information may be accessed per station or for all stations.



Configuration is straight-forward and intuitive.

Rather than record all details of EAS events, this software logs and prints only

information required by the FCC such as date, time, alert sending party, alert receiving station and the type of alert. Reporting may be viewed per station or all at once. More complete logging should be done with conventional printouts from the Sage.

The version reviewed was V.1.1.9. An earlier version failed to identify the sending station. This was promptly corrected when the discrepancy

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was reported.

TDM Software is due to release shortly V.2.0 featuring client/server architecture eliminating the need for RS-232 serial cabling connecting all EAS units to a central computer. Remote monitoring will thus be possible via LAN connections. V.2.0 will also include FIPS code reporting.

This is simple, stable software, which reliably performs essential EAS logging functions simultaneously for numerous stations. Considering the current FCC emphasis on EAS compliance, EAScriber Pro is excellent insurance against FCC forfeitures. Pricing is moderate at \$392 for a 1-4 station license, with additional station licenses available for \$98. There is a 40 percent per year annual licensing fee providing upgrades and off-site support.

Johnson is network engineer with The X-Star Radio Network, Cincinnati.

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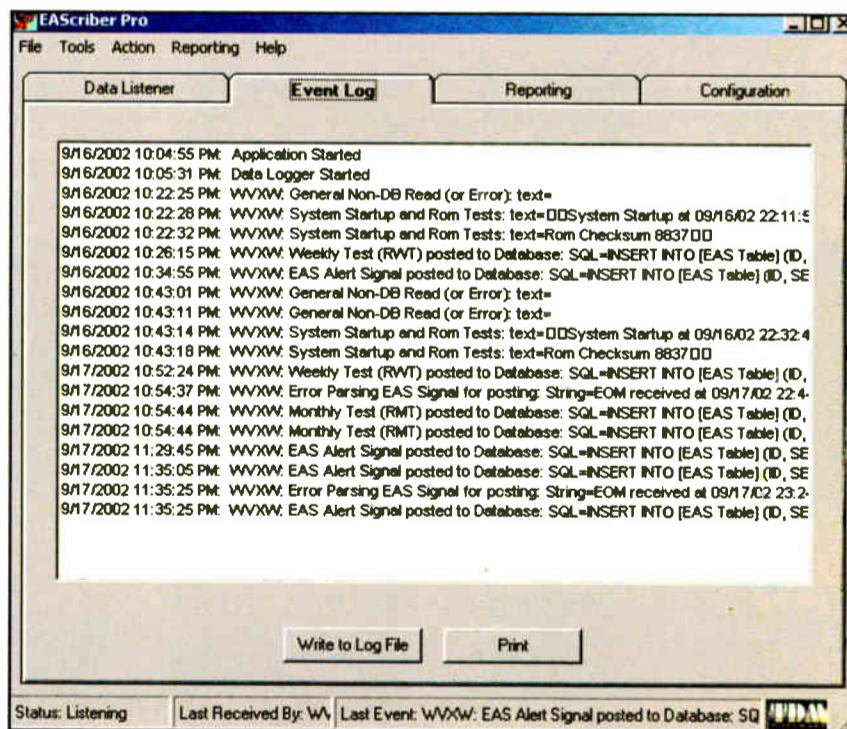
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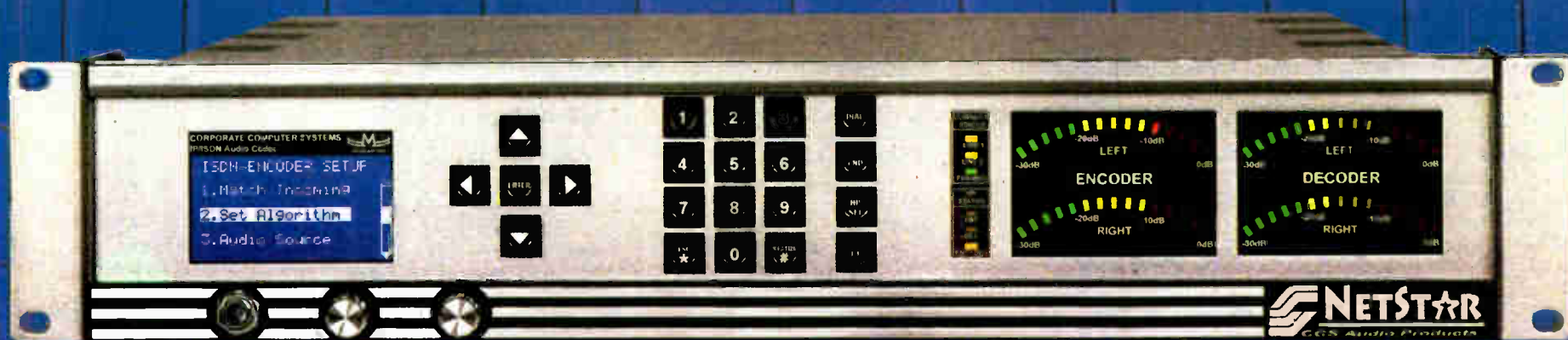


The event log is useful for recording such events as Sage system startups, database postings and report printing.

ID	SENT OR RE	Received By	TRANS	ALERT	DATE OF AL	TIME OF AL	NOTES
1	SENT	WJXW	WJXW	RWT	9/16/2002	10:15:29 PM	
2	SENT	WJXW	WJXW	CEM	9/16/2002	10:24:01 PM	
3	RECEIVED	WJXW	WJXU(FM)	RWT	9/17/2002	10:41:35 PM	
4	RECEIVED	WJXW	WJXU(FM)	RMT	9/17/2002	10:43:55 PM	
5	SENT	WJXW	WJXW	RMT	9/17/2002	10:43:59 PM	
6	SENT	WJXW	WJXW	EVI	9/17/2002	11:19:08 PM	
7	RECEIVED	WJXW	WJXU(FM)	CEM	9/17/2002	11:24:18 PM	
8	SENT	WJXW	WJXW	CEM	9/17/2002	11:24:33 PM	

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SBE NEWS

Education & Fellowship

by John L. Poray, CAE
SBE Executive Director

Radio World offers this space to the SBE as a service to the industry.

There are more than 100 local chapters of the Society of Broadcast Engineers in the United States. Most meet monthly, providing engineers an opportunity to learn from others and share their knowledge on technical issues.

Chapters provide an opportunity to meet and make friends in the broadcast engineering field who share some of the same goals and challenges that you do. Participating is a great way to get more out of your membership in SBE. If you are not a mem-

ber, stop by the next meeting of the chapter nearest you and see what it's about. All chapters welcome guests and will be happy to have you.

If you don't live near an SBE chapter but are a ham operator, there is a chapter for you. Chapter 73, SBE's "Chapter of the Air," meets every second Sunday of the month at 0000 GMT on 14.205 MHz. Hal Hostetler, WA7BGX, serves as control station.

For information about SBE membership, visit the SBE Web site at www.sbe.org or contact the SBE National Office at (317) 846-9000.

Following is a list of SBE chapters organized by state/region, along with the local chairman contact. Many chapters also have their own Web sites, which are linked at www.sbe.org.

Alabama

Birmingham – Chapter 68
Chairman: Rick Mann
(256) 332-4422 or
rmann1@hiwaay.net

Huntsville – Chapter 111
Chairman: Danny Holland
(256) 726-9200 or
dholland@hiwaay.net

Montgomery – Chapter 118
Chairman: Larry Wilkins
(334) 240-9274 or
larry.wilkins@cumulus.com

Alaska

Alaska – Chapter 89
Chairman: Terry Reynolds
(907) 441-2989 or
reynolds@mtaonline.net

Arizona

Phoenix – Chapter 9
Chairman: Robert Reymont
robert@reymont.com

Tucson – Chapter 32
Chairman: Roy Mitchell
(520) 682-6423

California

Fresno – Chapter 66
Chairman: Ken Holden
(209) 222-2121 or
ken9@pipeline.com

Inland Empire – Chapter 131
Chairman: Paul Claxton
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paul1960@earthlink.net

Los Angeles – Chapter 47
Chairman: Robert Russell
(310) 964-8821 or
rrussell7@socal.rr.com

Sacramento – Chapter 43
Chairman: Jack Davis
tvchief@engineer.com

San Diego – Chapter 36
Chairman: Jack Moran
(619) 685-5734 or
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San Francisco – Chapter 40
Chairman: Arthur Lebermann
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Denver – Chapter 48
Chairman: Robert Whiting
(303) 486-3800 or
robwhiting@hotmail.com

Grand Junction – Chapter 81
Chairman: Norm Price
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Connecticut

Connecticut Valley – Chapter 14
Chairman: Frederick Krampits
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District of Columbia

District of Columbia – Chapter 37
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Florida

Central Florida – Chapter 42
Chairman: Michael Flynn
(407) 645-1818 or
flynn@wbi8.com

Jacksonville – Chapter 7
Chairman: James Biggers
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jobtv4@aol.com

Palm Beach – Chapter 88
Chairman: Clifford Thomas
(561) 694-2525

South Florida – Chapter 53
Chairman: John Theimer
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Tampa Bay Area – Chapter 39
Chairman: Rebecca Criswell
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rcriswell@pcomsys.com

Georgia

Atlanta – Chapter 5
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Palouse Clearwater – Chapter 117
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Southern Idaho – Chapter 115
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Chairman: Henry Ruhwiedel
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Chairman: Robert Henning
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mquella@catholictv.org

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Grand Rapids – Chapter 102

Chairman: Lawrence Kozal, Jr.
(616) 771-6666 or
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See SBE, page 14 ▶

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Workbench

Radio World, February 1, 2003

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Trees That Grow Overnight

by John Bisset

★★★

Fred Greaves, Jr., is director of engineering for Susquehanna Radio Corp., and got a chuckle over our comments about FCC inspections and the inspectors. Fred adds a tip for chiefs of AM directionals.

A few years ago, an inspector insisted on taking harmonic measurements (yes, they are still required) in the null of the AM directional. As you know, this null is produced at carrier, not at the harmonics, and therefore a false attenuation is seen. If you don't understand or agree with the inspector, politely ask for clarification.

Broadcast stations are but one small segment of the inspector's realm of stations: ships, amateur, TV, the list goes on. That's a lot of rules to keep straight, and mistakes can occur.

Chuck Condron is senior regional IT manager for the Southwest/Plains and Northwest Regions of Clear Channel. He once worked for a station that was inspected; the FCC fellow wanted to see the Public File. He then asked for the Political File. Chuck recalls glancing down only to see "Political File - 1985." This was 1987. To make matters worse, the folder was empty.

Chuck honestly admitted they didn't have a Political File for 1987, but at the inspector's urging, they checked in the GM's office, the sales office — still no file could be found. The inspector queried, "So you have no Political File?" Chuck admitted there was this file from 1985, but it was empty. The inspector replied, "... has

Political File..." and checked it off. He then informed Chuck that he didn't care what the label said, as long as it had the word "Political" on it, and he could care less if it was empty.

The station was a poor AM, with one commercial running. Guess the inspector showed a little compassion. Most of us have been there. (What do you mean, you're there now?!)

★★★

Our readers are great, providing pictures of station neglect. Fig. 1 is another shot to give your GM.

Granted, many years passed without an inspection, but it's also a testimony as to why you correct little problems (like saplings) while they are small.

Not only are the problems found at the guy anchor points, but trees grow, and Fig. 2 shows the guy wire of this FM station displaced by yet another "sapling."

This is the kind of problem that easily can be discovered during "due diligence" inspections. If your owner is ready to "buy," check things out for him — for a fee, of course.

In addition to the cost of tree removal, guy wire replacement and tower re-plumbing; you've got the FCC fine to worry about as well.

★★★

Michael Bostic with Networx Corp., in Rochester, N.Y., has chiefted his share of stations. Most of the sites used dry nitrogen to pressurize the lines. Being a bit neurotic about alarms and warnings, Mike purchased

a "T" fitting and a pressure-activated switch. There are a variety of these at Grainger, but a gas supplier may also have them.

You'll want to select a switch with a low trip point of a pound or less, and connect it to an alarm input on the remote control. If the bottle empties, the switch gives you a reminder before you notice during a regular inspection.



Fig. 1: Correct 'little' problems like saplings while they are indeed still small.



Fig. 2: Trees and guy wires don't mix.

You can also make simple adjustable high and low building temperature alarm sensors from common residential heating thermostats. They provide simple contact closures that work on any remote control, an inexpensive investment.

★★★

Looking to braze ground strap? Take a tip from Curtis Media's Gary Saber in SeeWORKBENCH, page 16 ▶

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Workbench

► Continued from page 15
Raleigh, N.C., for your next brazing project, and use Silver Phos-Copper Brazing Alloy, as seen in Fig. 3.

provides an extra AC outlet, too. The adapters can be ordered online at www.powerstripsaver.com and at www.pcconnection.com. At this price, there's no excuse not to have every outlet on your power strip available.

★ ★ ★



Fig. 3: For your next brazing project, use Silver Phos-Copper Brazing Alloy.

Add a MAPP gas torch, and a neat copper strap splice is just seconds away, as shown in Fig. 4. The Phos-Copper rods and the Mapp gas torch can be found at welding supply or hardware stores.

★ ★ ★

Radio World Editor Paul McLane frequently comes across neat little products to share with readers of this column. Here's an idea that we've seen before, but not at this price. The product is a Powerstrip Saver adapter cable, provided by The Carpenter Group USA LLC.

The adapter plugs into an AC power strip, freeing up plugs that would be covered by wall warts or those "black box" AC transformers. The wall wart plugs into the adapter.

There are two models, a single adapter that lists for \$1.79, and a dual version that permits you to plug in your wall wart, and

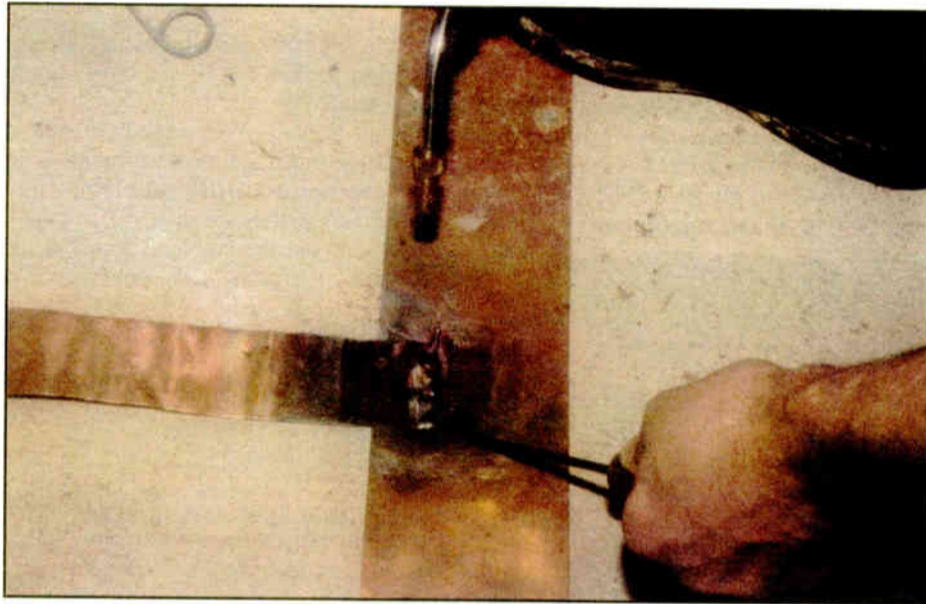


Fig. 4: Add a MAPP gas torch and a neat copper strap splice is just seconds away.

Cris Alexander is with Crawford Broadcasting in Denver and writes for Radio World. He has maintained a number of AMs and has had to adjust ball and spark gaps at the base of these towers.

In addition to our tip of cleaning these spark gaps when the transmitter is off, and no storms are in the area, Cris suggests grounding the tower at the base. A battery jumper cable works well for this.

Very high static voltages can develop across the base insulator of a tower, even with clear blue skies. All that's needed is a little wind and relatively dry air. The conditions will produce a pretty good jolt for no apparent reason.

By grounding the tower before you begin work, your safety is further ensured.

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

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

WLW

► Continued from page 4

recordings deteriorate or get destroyed and first-hand participants pass on."

Magistrelli said WLW no longer had any of its own recordings. Fortunately, former WLW Engineer Ed Dooley had saved more than 600 WLW discs.

"But since recordings from the 1930s only formed a very small portion of his collection, we found ourselves tracking down performers or their relatives, hoping to discover additional discs."

A big hand came from Randy Michaels of Jacor and later Clear Channel, who gave a blanket release that gave the team access to material in libraries and collections.

"Whether it was the National Archives or the Library of Congress, Randy's signature opened doors that would otherwise have remained closed to us," Magistrelli said.



Powel Crosley Jr.

Some excerpts took weeks to restore. "The advent of Cedar and NoNoise systems have made all the difference in the world," Magistrelli said. "When we decided to bite the financial bullet and get into digital audio restoration, we chose Cedar because of its ability to let one hear the processing results in real time."

George Zahn agreed, but said even with Cedar, there was "a lot of hoeing to do."

"On 'With Plenty of Money and You,' it became apparent that a mic on one of the vocal groups had all but died during the broadcast. Using a parametric equalizer, we were able to isolate the vocal range of the affected performers and actively remix their vocals during real-time playback of the source material. The challenge was to do this without increasing the remaining surface noise.

"Apart from Mark and I, nobody will ever know the level of noise and disc damage we started with on so many of these recordings."

The enthusiasm of the producers is infectious. Magistrelli recalls talking with Dorothea Ponce of the Ponce Sisters.

"To me, it was mind-boggling that I was able to talk to someone who made records for Thomas Edison during the mid-1920s — and then, as daughter of Phil Ponce, manager of jazz pianist-singer Fats Waller, 'Dobbie' told us how Waller came to WLW, and about his break with the station in late 1933."

The producers shared many more thoughts with me. I've posted our full interview at www.rwonline.com.

Will there be another documentary? King said absolutely yes.

"I hate to be an alarmist, but all of us fear the inexorable ticking of the clock here. ... As long as the potential exists for future such projects, WVXU will be there to get them done."

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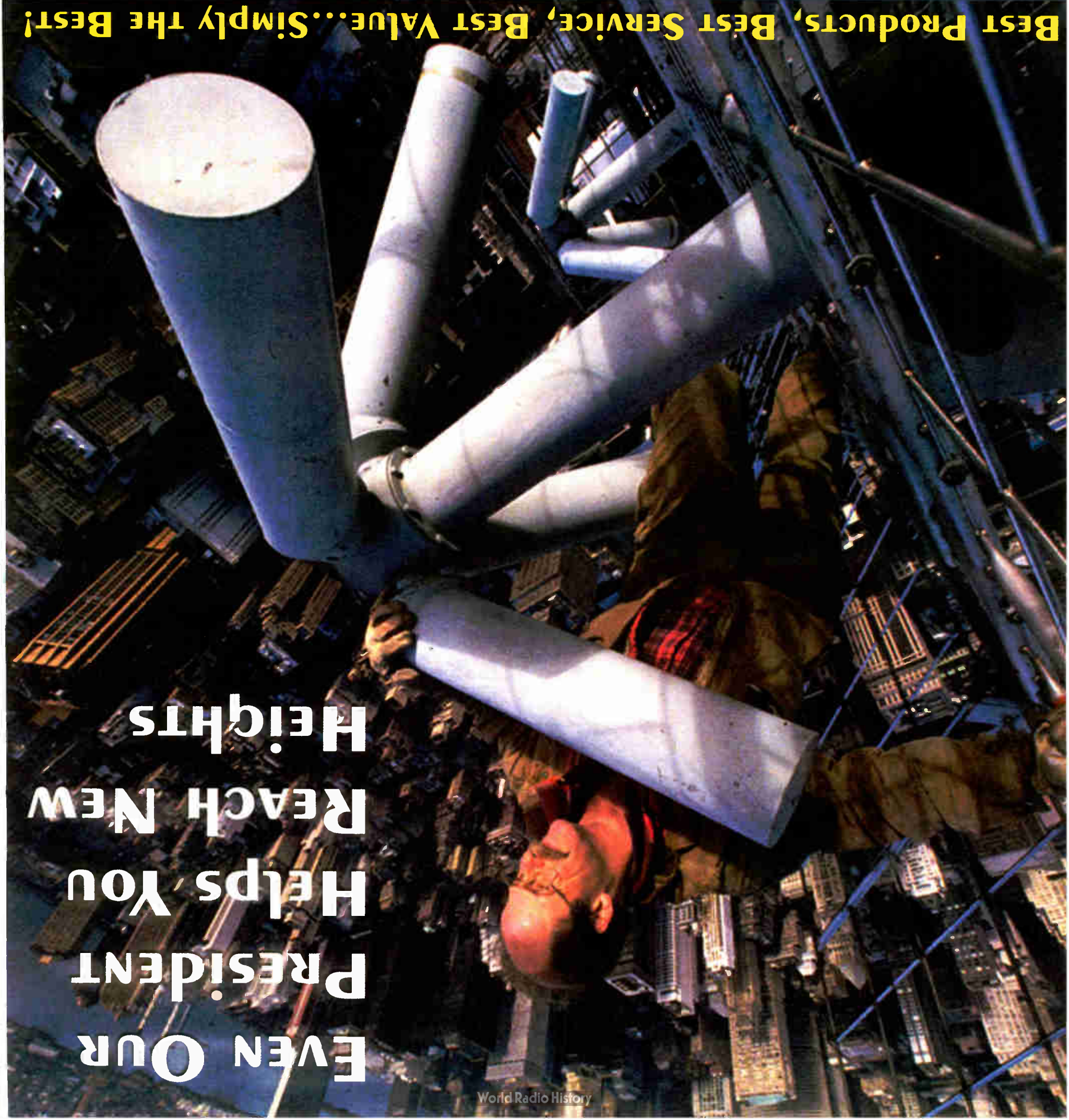
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NRB Draws Religious Broadcasters

by Lyssa Graham

Members of the National Religious Broadcasters association will meet at the Opryland Hotel in Nashville, Tenn., Feb. 7 to 11 for the 60th annual NRB convention.

Six thousand Christian broadcast professionals are expected.

Themed "Changing World, Unchanging Message," the convention will bring a look at coming changes in broadcast technology. NRB Executive Vice President Michael Glenn said the theme "highlights the fact that the message and the principle of what we do is proclaiming the gospel and that doesn't change, but obviously we have a changing world."

Flexibility

Glenn said he feels that every facet of communications is facing change.

"Technology is impacting radio, TV and even shortwave radio," he said. "But Christian communicators really put out the word in all aspects of electronic media. We have the flexibility to adapt to

any door that opens up for us in the global view of things."

To help Christian broadcasters realize their flexibility, the convention will offer five "boot camps" designed to provide concentrated educational sessions. The

**Every facet
of communications
is facing change.**

— Michael Glenn

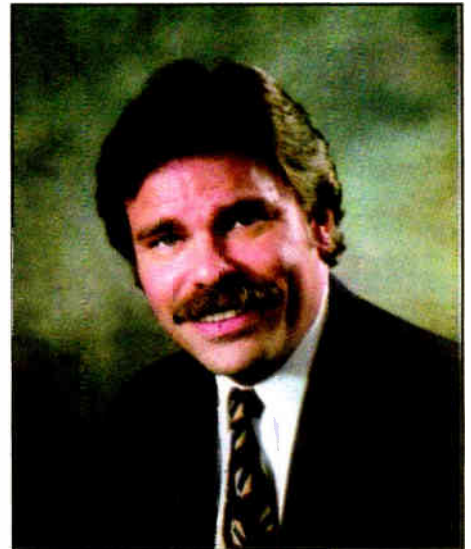
boot camps focus on TV, Internet, Stewardship, Radio and Church Media and will run from 9 a.m. until 2:30 p.m. on Saturday, Feb. 8.

The Internet boot camp will encompass four sessions.

"Moving From Information to Inspiration" is hosted by Eric Brown of In Touch Ministries in Atlanta. Tom Perrault of Crosswalk.com in Chantilly, Va., will discuss "Fatal E-mail Errors." Rita Cavicchio-Christie of Christianbook.com will host "50 Great Ideas in 50 Minutes," and a Web site clinic, titled "The Doctor Is In" will evaluate sites by design and functionality as well as provide suggestions for improvements.

Christian communicators may submit their URLs in advance by e-mailing rickk@oneplace.com. Rick Killingsworth, vice president of the Salem Web Network, will moderate the boot camp.

The radio boot camp will feature sessions titled "Picking the Hits — Does God Really Care?," with Jon Hull, program director of KSBJ(FM), Houston; "The 10 Biggest Mistakes Program Directors Make" from Mike McVay, CEO/president of Cleveland-based McVay Media; and "The Christian Radio Listener Exposed," led



Michael Glenn

by Alan Mason, managing partner of Audience Development Group, Grand Rapids, Mich.

Scheduled speakers like Rick Warren of the Saddleback Valley Community Church in Lake Forest, Calif. and Jim
See NRB2003, page 20 ▶

Where Voicetracks Meet Satellite

by Scott Fybush

When you think of satellite-delivered music formats, you probably think of names like ABC Radio Networks and Jones Radio Network. Out in the middle of the country, Waitt Radio Networks is trying to claim its piece of the market with a unique new system that combines the best aspects of voicetracking and satellite delivery to make stations sound live and local,

even when there's nobody home.

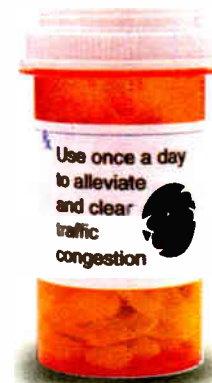
The Omaha-based company owns about 70 radio stations in the Midwest and provides five 24-hour formats to about 50 client stations from Maine to Hawaii. Four of the services, "Country Today," "Country Classics," "Alternative Now" and "AC Active," are traditional satellite-delivered formats, with a handful of breaks each hour for local IDs and weather inserts. The

See WAITT, page 20 ▶



"Country Today" Personality Betsy Britton on the Air

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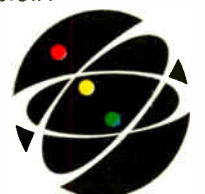
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TRAFFIC C.O.P.
FOR WINDOWS

NRB2003

► Continued from page 19

Cymbala of the Brooklyn Tabernacle in New York will represent a broad base of industry, according to Glenn.

Bases covered

"These are two men, one from New York and one from southern California, who can help better understand engaging our culture," Glenn said.

Warren, author of the books "The Purpose Driven Life" and "The Purpose Driven Church," reaches worshippers through live Webcasts and the "Slice of Life" e-mail newsletter. He founded Pastors.com, an Internet community reaching 60,000 subscribing pastors worldwide.

Cymbala's ministry reaches people with ministry stations in Peru, Haiti and the Dominican Republic as well as the New York metro area. He is the author of

numerous books including "The Life God Blesses," "Fresh Power" and "God's Grace From Ground Zero."

In addition to Warren and Cymbala, the NRB2003 convention will host representatives from approximately 40 countries.

"Once again, this is the major gathering of Christian communicators, both nationally and, even to a certain extent internationally," Glenn said.

Glenn said Christian broadcasters are facing many challenges.

"One is continuing access to TV, whether it be cable or satellite. Keeping us cutting edge in our programming, whether that's radio or television. Staying on top of some of the technological changes in the radio world, such as Ibiquity, among other things.

"The list can be long. It's challenging but exciting."

Glenn said about 300 exhibitors have registered with the convention. The exhibit hall is 150,000 square feet. Glenn said he expects a surge in late registrations.

The exhibitor list includes a range of companies as diverse as American Bible Society, Arab Vision Inc., Christian Hit Radio Satellite Network, Clear Channel Satellite Services and the World Radio Network Inc. Glenn said last year's convention saw an equal number of exhibitors and more than 6,000 attendees.

The NRB has 1,600 member organizations. The association was established in 1944 and represents the "majority of Christian communicators in the United States — both in radio and television," he said.

Trends, opportunities

With the thrust of the convention leaning toward dealing with changing technology, Glenn said the challenge is to "try and keep our people full abreast of that and fully aware of trends and opportunities."

Lyssa Graham is a free-lance journalist and morning radio personality based in the U.S. Virgin Islands. Reach her via e-mail to lyssagraham@msn.com.

Waitt

► Continued from page 19

fifth, "Oldies Plus," is localized for each market, with voice-tracked breaks delivered over the Internet.

"Right now, we're just like any other network, where if it's a 3:30 network break, the affiliates will have to take 3 minutes and 30 seconds for the break," said Skeet Skaalen, director of engineering for Waitt Radio Networks.

Within a few months, though, Waitt will roll out a delivery mechanism to its affiliates: IP-over-satellite, providing a customized, near-real-time program feed for each station.

"It'll be our own Internet in the sky," Skaalen said, combining the advantages of voicetracking and hard-drive automation with the reliable program delivery of satellite distribution.

The delivery system will use space on SAS Americom's AMC-8 (formerly GE-8) C-band satellite, with affiliate stations providing their own dishes to connect to receivers and automation computers leased from Waitt.

What stations will receive from the system, Skaalen says, is a product that works just like traditional 24/7 formats but doesn't sound like them on the air.

"That's the biggest selling point — it

Talent for each format will remain based at Waitt's Omaha headquarters.

"At this end, they do quite a bit of tracking," Skaalen said. "Basically, they're working just ahead of real-time."

The system will give stations plenty of flexibility once it's in place. Skaalen says stations can treat it like a traditional 24/7 format provider if they want to, connecting it to their own existing automation systems to play out local spots, promos and inserts. They can also use Waitt's automation software to handle their local production and automation needs, including live-assist for local dayparts.

"One of the big benefits, because a lot of it (the programming) is on the hard drive but close to real-time, is that stations can rejoin the network at any time," Skaalen said. "If the (local) morning show ends at 10:03, for instance, they can just start the next event from the hard drive and our programming will pick up from there."

Stations will also have the flexibility to alter timing of stopsets, something the traditional satellite format providers can't offer. Because the program elements are being played out from a local hard drive instead of a distant studio, Skaalen notes, stations can lengthen or shorten breaks and drop songs as needed.

Waitt will begin rolling out the system toward the end of the first quarter or early in the second quarter of 2003. Once it's in

What:
NRB 2003
National Convention



Where:
Opryland Hotel,
Nashville, Tenn.

When:
Feb. 7-11

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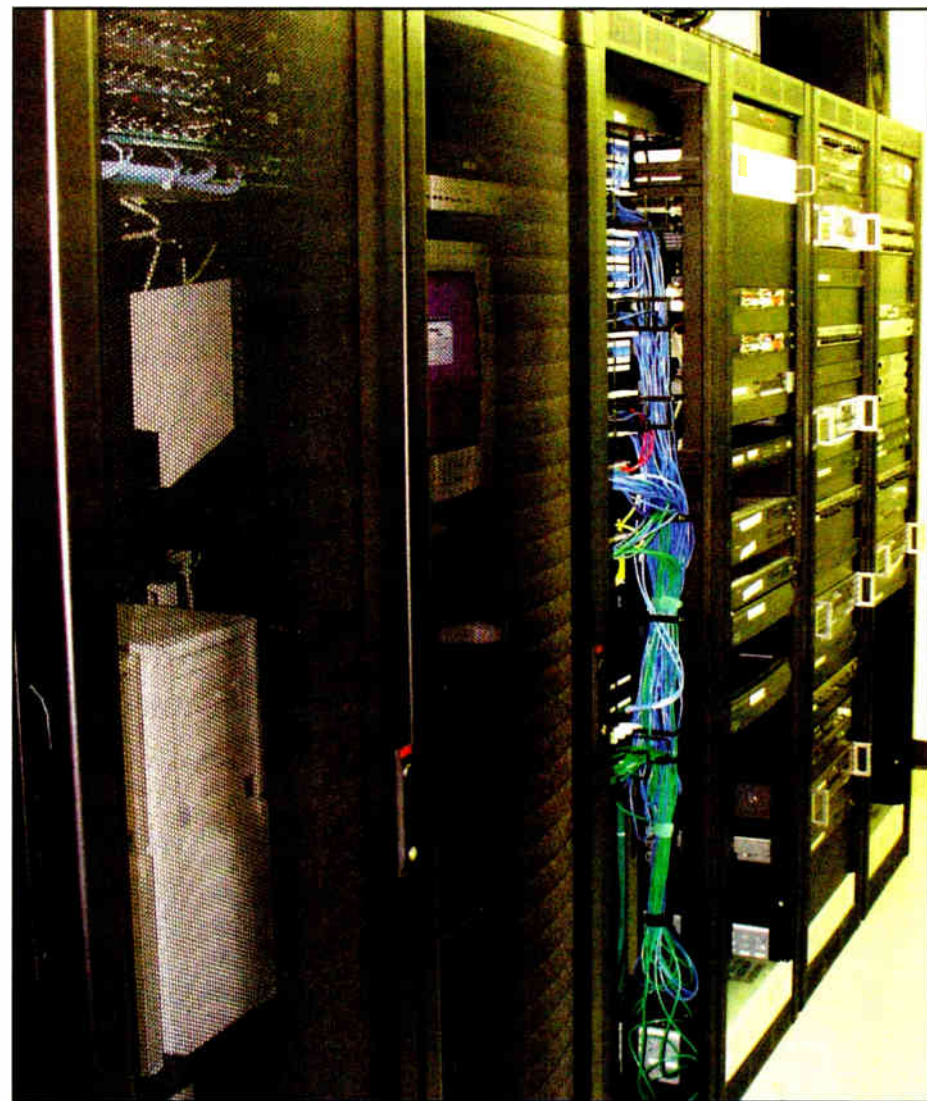
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Satellite Uplink Equipment at Waitt Master Control

sounds completely local," he said. "The stations send us information daily by fax about what's going on in their area."

The DJs for each format will then use that information to create customized breaks for each station, which will be fed over the satellite IP station as MPEG files and played out by the proprietary automation software in each station's PC. Waitt is working with software developer Macromedia to create that system.

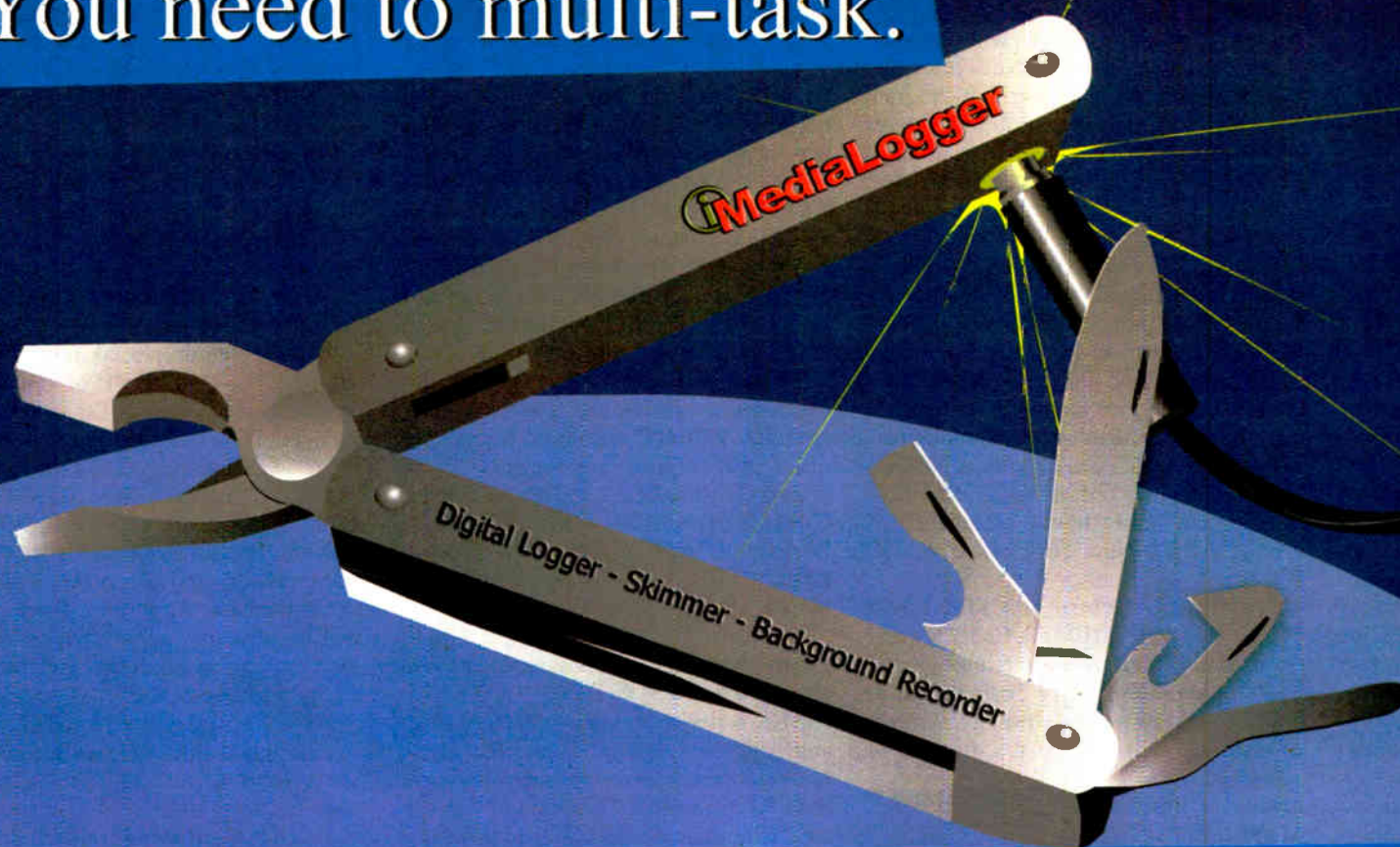
place, Skaalen says, there are plans to add at least one more format to the company's offerings as Waitt grows into a more formidable challenger to the established satellite program providers.

Depending on market size, Waitt offers its program services as either barter or a combination of barter and cash.

Scott Fybush (scott@fybush.com), a frequent contributor to Radio World, can be customized to suit local market needs.

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iMediaLogger ^{From} \$695

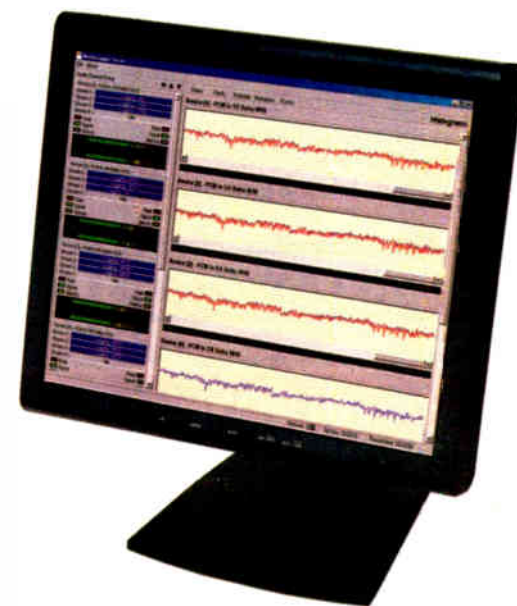
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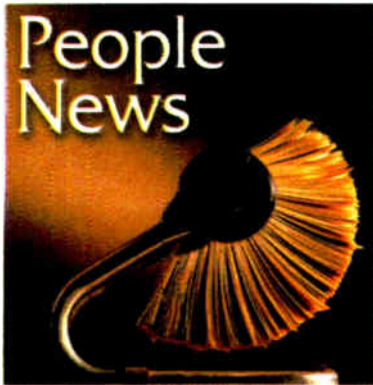
- Simultaneously record up to 16 stereo or mono audio sources or streams
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Infinity Broadcasting named Kevin Weatherly senior VP of programming and Eric Logan VP of programming. Weatherly will continue his duties as PD for Infinity's KROQ(FM) in Los Angeles, and Logan will relocate from Chicago station WUSN(FM) to work at the New York headquarters. Scott Karnedy has become senior VP/director of national sales.

Clear Channel Radio promoted Joe Bevilacqua, who was program director for Clear Channel's WJHY(FM) in Providence, Maine, to regional VP of programming for the eastern and northeast trading areas.

Chris Berry was appointed president and GM of WMAL(AM), an ABC station in Washington, D.C., and will leave his position as VP of ABC News Radio in New York.

The 2001 recipient of the John Bayliss Broadcast Foundation's Bayliss Radio Scholarship, Evan Kroft, has become the music director and assistant PD of Chicago-based WUSN(FM).

Jones Radio Networks Director of Marketing Shawn Smith is leaving to form a marketing alliance with Halloran: etcetera Advertising in Vancouver, B.C.

The New York State Broadcasters

Association is jointly sponsoring a new internship program for college broadcasters and journalism students with the State University's New York Network. The NYSBA/NYN Media Internship Program will let "outstanding students" cover Albany; a pilot semester with a small group of interns begins this winter. Students, who can earn college credit for their time, will be recruited from broadcast and journalism programs on college campuses around New York and the internship program will be based at the New York Network, the State University's TV production and transmission facility.

Robert Bucci joined Syndicated Solutions, an affiliate sales and radio marketing organization, as director of affiliate sales. Bucci worked as associate VP of Medialink and news director of Disney/ABC's New York-based WABC 770 AM.

NewRadio Group has added Jeff Winfield of KHAK(FM) in Cedar Rapids, Iowa, as director of programming.

Broadcast Software International added two sales people: Jim Zix, director of training, will also be the director of sales and marketing, and Mark Ruckwardt will be a sales staff member. Ginny Kliever retires as sales manager.

Veteran broadcast salesman Marty Sacks is now part of the ERI team.



Marty Sacks

Sacks most recently was national sales director for Telos Systems and Omnia Audio. He becomes ERI's director of sales.

AudioAudit, a provider of patented broadcast verification technology products, appointed Mark Beckwith senior VP of sales and business development and Neil M. Schaffer executive vice president and CFO. Beckwith was VP of commercial operations for the NBC TV Stations Division and Schaffer was executive vice president and CFO of MediaPort, an advertising industry consortium.

Thunderline-Z named Jeffery McCann, former technical services manager at A.T. Wall Company, to engineering manager. He replaces Jim Zanello.

Jeff Highsmith has joined Harris Corp.'s Broadcast Communication Division as sales representative for the Broadcast Center Sales, based in Mason, Ohio.

Furman Sound appointed Casey Zygmunt to national sales manager for its pro audio products division.

SRS Labs, a provider of voice, audio and ASIC technology, named Raymond Lee vice president/general manager for the Asia Pacific region. The position was created to maximize SRS's growth in that area's manufacturing and consumer electronics markets.

Ralph E. Faison becomes Andrew's president and CEO. Currently the president and CFO, Faison will take over at the company's 55th Annual Meeting of Stockholders in February and replaces Dr. Floyd English.

Soundcraft USA altered its independent manufacturer's rep network. The appointed firms, with respective principals and territories, are Sigmec Corp., Sam Helms, for metropolitan New York and the Middle Atlantic; Talbot Marketing, Dave Talbot, upstate New

York; Robert Louis Associates, Robert Podolinski, Ohio and Pennsylvania; Innovative Audio Sales, Andy Combs, Michigan; Sound Marketing Central, John Reda/Mike Flynn, Illinois and Wisconsin; Sound Marketing West, John Reda/Perry Celia for southern California and Nevada; MJA Marketing, Marcus Johnson, for Missouri, Kansas, Nebraska and Iowa; and Network Sales & Marketing, Bob Schmid, for Minnesota, South Dakota and North Dakota.

TC Electronic placed John Maier in the new position of VP of sales, North America, and appointed Ed Simeone, who founded TC's U.S. distribution company, to president and the board of directors.

Chantilly, Va.-based BIA Capital Corp., an investment banking firm specializing in the communications industries, added two directors, Henry R. O'Connor and A. Jerome Fowlkes, who will be responsible for advising firms on mergers and acquisitions and arranging equity and debt capital.

BIA Capital Corp.'s affiliate BIA Financial network added an account executive, John T. Neff, to represent publications and software.

Russell Gentner, president of Listen Technologies Corporation, was elected to the International Communications Industries Association Board of Governors. ICIA produces InfoComm, an international trade association representing dealers, manufacturers, design consultants, independent representatives and others in the audiovisual industry.

Tell us about your job change or new hire. We're particularly interested in hearing news about radio engineers. Send news and photos via e-mail to radioworld@imaspub.com or mail to Radio World People News, P.O. Box 1214, Falls Church, VA 22041.

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STATION SERVICES

Traders Nation' Surfs Farther Into the Web

"Traders Nation," a Web-based financial talk show, will be carried by eight more stock sites that recently picked up the freely distributed radio program for visitors.

The newly syndicated sites are Tradingsource.com, Thezone2002, Eshacks.net, SurfLondon.com, Invis-a-vision.com, TheDebtMatrix.com, PennyMarkets.com and Rococ.us. "Traders Nation" now has 60 affiliates, all Web-based.

Host Kurt Schemers said, "These newly syndicated Web sites are choosing [us] over other content providers in the small-cap radio market not only for the programming quality but also its ability to peak the listener's interest and maintain investor appeal."

A sample from a recent "Traders Nation" features two segments. Schemers mentions the "Survivor" Brunch in Los Angeles, introduces two

company interviews and brings investors up-to-date with the Knobias.com minute.

Next, Tom Allinder of HotStockChat.com pays a visit to give listeners potential movers on the Over The Counter Bulletin Board. The show covers stocks like Sonoran Energy, QuickTV, USA Technologies, WaveRider Communications, JAG Media Holdings, iBX group and Rock Mountain Energy Corp.

For more information, contact Kurt Schemers in Arizona at (602) 265-1435 or visit www.tradersnation.com.

Cleveland Pops Reverts to WRMR

The WRMR call letters returned to Cleveland last month, as Classic Pops WCLV(AM) at 1420 kHz begins using the letters. They had been dropped when WCLV took over that format in 2001.

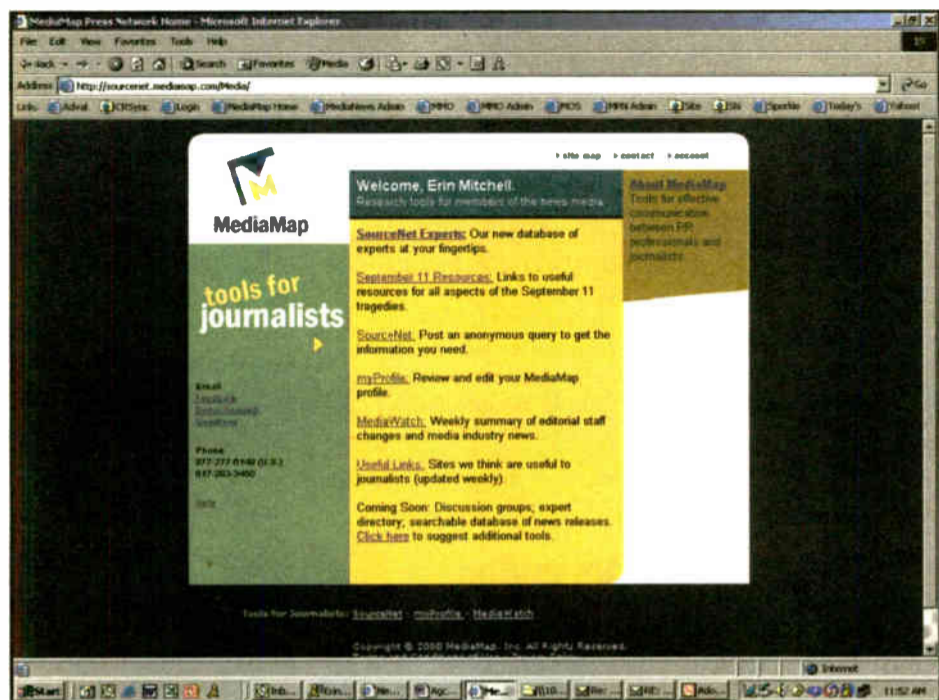
The change should end confusion caused by the existence of sister station WCLV(FM), a classical music station.

Management at the pops station decided to make the change as a response to listener confusion between the stations and feedback that asked for the old WRMR identification. WRMR first appeared in 1985 when it replaced WJW(AM) at 850 kHz.

STATION SERVICES

MediaMap Services Available to Media

MediaMap is a suite of research tools for working members of the news media. The service offers resources such as SourceNet Experts, an expanding database of various experts; Sept. 11 Resources, information for those covering events connected to the terrorist attacks; SourceNet, offering quotes, opinions, product news and general information; and MediaWatch, weekly listings of personnel moves and changes at news organizations. For more information call (617) 393-3454 in Massachusetts, e-mail MediaServices@mediamap.com or visit the company Web site at www.mediapmap.com/media.



River Lounge Unites Fans and Bands

St. Louis' WVRV(FM) 101.1 "The River" is bringing its audience and fan-favorite musicians in a crowd-pleasing and up-close way. The station recently hosted Rob Thomas and Adam Gaynor of the band Matchbox Twenty for its "River Lounge" series, an afternoon interview with personality Vic Porcelli and an acoustic music set witnessed by a group of contest winners and guests. The events are recorded in a studio at Four Seasons Media Productions in St. Louis. The station has held several of these Lounges to give listeners a chance to see big-name acts up close in a studio. Past guests include the Wallflowers, Five for Fighting and Tori Amos. WVRV is owned by Bonneville Communications.



Rob Thomas of Matchbox Twenty plays during a live acoustic set at The River's Lounge series.

Emmis, CustomWeather Join Forces

Multiple-station owner Emmis Communications is stepping into an agreement with CustomWeather service. Emmis' 20-plus radio stations will use CustomWeather's content. Emmis owns stations in several major markets including Los Angeles, New York and Chicago. "Our relationship with CustomWeather allows our radio stations to provide relevant local weather content to their Web site visitors, in addition to a number of specialty weather reports that cater to various audience interests," stated Deb Esayian, vice president of Emmis Interactive. CustomWeather is offered in Spanish and English.

ABC Radio Picks Up Satellite Sisters

Real-life experiences are the backbone of a talk radio program to be offered to ABC Radio Network affiliates. "Satellite Sisters" is set to air Saturdays from 9 a.m. to noon EST beginning Jan. 25, 2003. The program is based in Los Angeles, Portland, Ore. and Moscow, Russia. Five real-life sisters — Liz, Lian, Julie, Sheila and Monica Dolan — unite via satellite to share experience and hope in an effort to inspire and entertain listeners. For more information call affiliate relations at (212) 735-1700.

Bayliss to Roast Hare

ABC Radio President John Hare has been picked as the "dis" honored guest at the annual Bayliss Radio Roast. The event — sponsored by The John Bayliss Broadcast Foundation — is scheduled for March 13, 2003 at The Pierre Hotel in New York City. Hare has served as president of ABC Radio since 1999. His duties include overseeing the division of radio stations along



John Hare

with ABC Radio networks. His career has taken him from Texas to Washington and Michigan. Proceeds from the black-tie affair — now in its 17th year — fund the foundation's radio scholarship program. For more information call (831) 655-5229 or e-mail roast@baylissfoundation.org.

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For the past few years, we've been running ads in Radio World that were so bright you could read them in the dark. We got to thinking... if you haven't ordered from BSW before, you might think that behind those hard-sell ads were a bunch of hard-sell, android order-takers.

And nothing could be farther from the truth.

Take International Sales Associate **Ricardo Espinoza**. He has a dedicated customer

list from over 70 countries. They call Ric instead of The Competition because of his serious product knowledge and decidedly un-serious personality. They get solid answers from a seasoned professional and personal service that we honestly think is the best in the broadcast industry.

Along with Tom, Laz, John, Gary, Shannon, Ryan, Paul and Steve, Ric is why Broadcast Supply Worldwide really is your best source for professional audio — our friendly folks really know their stuff.

Call us today!



A photo of a corporate headquarters that looks almost but not totally unlike the building that BSW is housed in. Similarities include the presence of doors, windows and indoor plumbing.



The Eagle has Landed!



Get the amazing AEQ Eagle dual-channel ISDN audio codec. With the Eagle at the studio for example, you could have two remote broadcasts feeding audio to the studio, and all three locations could communicate with one another (the Eagle offers unique multiplexing capabilities). Features: control bus offers IP remote control by internet or computer

network; dual-channel for 64 kbps encoding modes: G.711, G.722 and MPEG; mic input; headphone jack; front phone jack; dual display; metering of send and receive audio; AES/EBU analog and digital I/O; silent operation (no built-in air fan).

EAGLE List 2,795⁰⁰
2,595⁰⁰

Affordable POTS/ISDN codec



SWING
List 2,295⁰⁰

1,995⁰⁰



The Swing is the newest AEQ portable audio codec. Its built-in digital telephone hybrid has the ability to connect to an analog line simultaneously with the ISDN connection. This makes it ideal for any broadcast that requires a back-up connection. The digital hybrid has a frequency extender and echo cancellation capabilities. The mixer features three mic inputs with limiter and two headphone connectors. Features: G.711, G.722 statistical and H221/H242, MPEG II algorithm; automatic elimination of send signal on the return feed; UPS battery backup up to 30 minutes.

Best Value! Audio-Technica Mic Package



AAudio-Technica breaks new ground in price and performance with the AT3035. This true large diaphragm studio cardioid condenser mic has exceptional detail and low noise, high maximum SPL, and wide dynamic range. Features: extended low-frequency response; a custom shock mount (included); low-cut switch (80 Hz, 12 dB/octave,) as well as a 10 dB pad. For a limited time, BSW will give you a FREE mic boom and 25 ft. XLR cable with purchase!

AT3035PACK
List 399⁰⁰
199⁰⁰

ht that we decided to tone down



Short/Cut Audio Editor

The 360 Systems Short/cut Editor replaces two-track reel-to-reel tape machines for fast editing of single or dual channel audio. It offers all the features you'll need to capture and edit audio for talk radio, call-in clips, news actualities, promos and spots. Features: split-second editing; familiar tape recorder interface; high-resolution waveform display; real-time editing including cut, copy, insert, erase; insert record; crossfades; fade-in/fade-out; gain changes and ramping; one-touch instant record captures incoming audio in any mode; title and cut select with built-in keyboard; assign cuts or edited clips to 10 Hot Keys per Directory; hard disk stores 12 hours of audio; ; D-NET File Transfer Network capability lets you transfer finished audio; balanced XLR analog I/O (left channel input is switchable mic/line level); AES/EBU digital I/O.

SC182 List 3,495⁰⁰
2,895⁰⁰

Instant Sound Effects... Just Hit the Hot Key

360 Systems' Instant Replay redefined the term Hot Keys, with a control panel that offers rapid fire playback of 50 cuts, ordered in 10 different banks. Up to 24 hours of stereo audio can be stored on Instant Replay's self-contained hard drive. Features: stores up to 1,000 audio cuts of various lengths; "Top and Tail" trim editing lets you select the exact audio bite, or portion of an audio file that you want; records with a start-on-audio feature for tight starts; built-in keyboard locates cuts by name/number; ten banks of 50 Hot Key buttons; internal hard disk stores 24 hours of random access audio; external parallel port for outboard removable storage drives; jump from one cut to another with completely seamless transitions; built-in D-NET File Transfer Network capability; balanced XLR analog I/O; AES/EBU digital I/O.

DR554-E List 3,250⁰⁰
2,795⁰⁰



You want the RE20 75th Anniversary Special Edition

Here is your chance to own a piece of history. Be the first on your block to own the Special 75th Anniversary Edition Electrovoice RE20 Microphone. This limited edition collectors mic is an RE20 through and through but is painted black and has a special 75th Anniversary Logo. This mic will look and sound great in your studios... ..why you'll be the envy of all who see it. You could get promoted and get a huge fat raise. Comes complete with a wooden box, serial number certificate and stand clamp. Hurry, once these are gone...there will be no more.

RE20-75SE List 798⁰⁰
429⁰⁰



FM Audio Processor

The Orban 8400 offers state-of-the-art five-band and two-band processing structures, but with it's supercharged processing power, there is a clearly audible improvement, namely a louder and brighter signal, with the smoothness and pristine clarity needed to hold listeners for extended periods.

8400 List 10,900⁰⁰

Call

orban



Affordable FM Stereo Processing

The CRL Amigo FM is a complete stereo audio processing system. A wide range dual band AGC ensures consistent station loudness, by automatically monitoring and adjusting your audio levels. Powerful multi-band limiting system gives your station a natural sound with superior loudness.

AMIGOFM List 2,695⁰⁰

2,495⁰⁰



Trust Audioarts for a full-featured, reliable console you can afford

The R-5 is a quality Audioarts console in a cost-effective, fixed-position configuration. It has quality electronic switching throughout, smooth feeling Penny Giles faders and a powerful monitor section. An exclusive Audioarts Simple Phone module friendly and easy to operate. Features: 13 channels (2 mic, 10 stereo line, 1 telephone); 4 mic amps; 2 inputs per channel; 4 VU meters for program and Audition; channel

on/off switches with full machine control logic; remote control of channel on/off; six-source stereo line selector; Simple Phone telephone channel and mix-minus out; studio control with talkback; 5-source control room monitor selector; digital timer with start/stop, reset and hold; tape machine remote control; cue speaker and amp.

R-5 List 5,452⁰⁰

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K110MPKG
89⁰⁰



BSW Exclusive Microphone 5-Pack

The Audio-Technica ST95MKII is a quality sounding dynamic mic that is perfect for PA and studio recording. Features: On/Off switch; XLR output; low impedance; cardioid pick-up pattern. Includes stand adaptor.

ST95MKIIPKG
99⁰⁰



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These durable mic stands for less than \$18 each in the 5-pack are an incredible bargain exclusively from BSW.

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Studio Sessions

**HHB Useful
For KOED
News Team**
See Page 28

Radio World

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February 1, 2003

PRODUCT EVALUATION

Warm Up to A Designs' Mic Preamp

by Russ Long

Los Angeles-based pro audio designer/manufacturer A Designs recently launched a debut product, the MP-2.

The MP-2 (\$1,499) is a no-frills stereo tube microphone preamplifier that uses first-rate Jensen input transformers and custom-wound output transformers coupled with a circuit utilizing a pair of 6N1-P tubes and a pair of EF86 tubes.

dB. The polarity switch inverts the phase of the preamp input. Switch positions are labeled 0 and 180.

Another switch sets the output impedance at 600 ohms or 10 kohms. Its switch positions are labeled 600 and 10k. The phantom power switch provides 48V phantom power to the microphone input when activated. The switch positions are labeled On and Off. If the phantom power is switched off while

The rear panel is equipped with a pair of Neutrik combo input connectors that will accept either a male 1/4-inch or male XLR connector for audio input. The input impedance is 1.4 kohm. On the unit I reviewed, both the 1/4-inch and the female XLR were set up for microphone input. This has since changed and now the female XLR is for microphone input and the 1/4-inch is a DI for instrument

input. A pair of male XLR connectors provides audio output. A standard IEC connector provides AC input.

Welcome response

The output of the box is a low-Z, transformer-balanced signal with a maximum level of +22 dBu. With a frequency response of 20 Hz to 60 kHz and a THD of less than 0.08 at 1 kHz, the MP-2 should find itself welcome in even the most sonically demanding recording scenarios.

See A DESIGNS, page 40 ▶



The result is a fantastic-sounding mic preamp with unusually low noise for a tube-based circuit.

Tubes still worthwhile

Granted, radio stations have been trying to replace tube equipment with solid-state gear for several decades. Still, there are features on the MP-2 that make it worth your while for high-quality voice recording and for those times when an instrumentalist visits the station for a live performance.

The 2RU MP-2 is 10 inches deep and weighs 18 pounds. The front panel has identical controls for each channel. The level control adjusts the gain from 0 to 46

the microphone is still plugged in, there will be a 10-second delay before it is completely off. Each channel is equipped with a backlit VU meter.

A power switch on the front panel activates power to the unit and a red jewel lamp illuminates when the unit is turned on. The 220V model has a blue jewel lamp. Unfortunately, the units are not user-switchable between 110V and 220V.

The MP-2 manual recommends that the preamp be allowed at least two to five minutes of warm-up time before use. I seemed to get the best results after allowing the box at least 30 minutes of warm-up time.

How to Fix a Spot 'Break'

by Alan R. Peterson

I have been going through a lot of my old tapes recently, looking for some of my better commercials and promos to put onto a demo CD.

That new Ops position I took on — the one I told you about back in the fall — failed to materialize into anything worthwhile, which means I am back on the street again, beating down the doors for that next prime gig. If you spot me at NAB 2003 in Vegas, buy me a drink and I'll tell you all the details.

I had a few surprises waiting for me on some of my old reels. It was quite the awakening to listen to spots I thought were broad strokes of advertising genius. Instead, I sat there wondering, "Good grief, did I write that?"

Non sequitur

A 30/30 piggyback I wrote for Oreck vacuum cleaners was the first to make me wince. Long before David Oreck himself began hawking his fine machines, local stations often cut their own copy. My approach concentrated on the portability of the eight-pound vacuum and how it could be lugged up and down stairs with little effort.

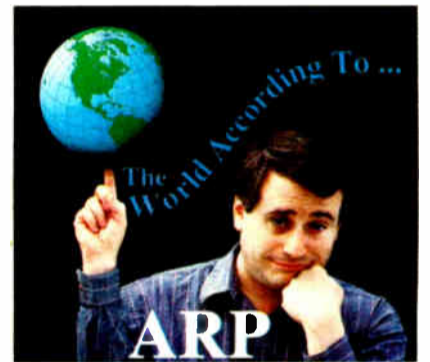
Naturally I went for the most out-there non sequitur I could come up with: a comparison between the vacuum and an elephant.

The copy points hit the facts quite well. You could not easily hoist an elephant up to the second floor, you did not have to clean up after an Oreck

(...pause until that one sinks in...),

and where the vacuum can lift a bowling ball, the elephant will instead eat one.

See ARP, page 34 ▶



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HHB, on the San Francisco Beat

by Christopher Springmann

The Hewlett-Packard press conference was running late, precariously close to the deadline to tease the noon news on ABC Radio station KGO(AM) in San Francisco. Veteran reporter Lee Schell of KGO was visibly anxious as he glanced at an empty podium, then back to his wrist-watch and cell phone.

"Tight, tight, too tight," was his oft-repeated mantra.

This made-for-media event, starring embattled Hewlett-Packard CEO Carly Fiorina, was a typical electronic newsgathering affair. There was none of that "whir of cameras, popping of flashbulbs" hype about newspaper journalists wax poetically. Digital ENG is sophisticated and elegantly quiet, with only an occasional conspicuous cough to add atmosphere.

Ohhh

Schell and the usual suspects — radio colleagues from KCBS, Reuters and the BBC — all converged on a multibox below the podium, furiously jabbing their 1/8-inch mini-to-XLR plugs into the forest of receptacles.

Unlike their video and still colleagues, operating digital capture devices priced in the four-to-five figure range, these radio pros were each equipped with consumer-model MiniDisc recorders, with max MSRPs of \$400, most costing much, much less.

"\$400 for a recorder? Man, that is my audio budget for the year," scoffed one AM radio reporter.

When the KQED reporter showed up with a stunning purple HHB MDP500 (\$1,599) and XLR'd into the multibox, there was a chorus of "ohhhhs."

erased entire files.

Is the future of radio ENG sitting on the shelf of the local Best Buy or Circuit City? Maybe not.

I decided to track the market impact of the HHB MDP500 PortaDisc by following up on the evaluation by Carl Lindemann of the then-new MiniDisc recorder (RW, May 23, 2001).



Dan Mansergh, Selena Hsu, David Shih, Michael Johnson and Scott Shafer are part of the KQED San Francisco news team.

Lindemann enthusiastically pronounced the HHB unit "definitely on the mark ... with extensive XLR, multiple digital I/O options plus USB; phantom power; even a 1/4-inch headphone jack ... all show(ing) a deep appreciation for what is needed for fieldwork. The PortaDisc should quickly become the pro MiniDisc of choice as the

A simple enough goal, although he faced major decision challenges.

The KQED news staff had partially self-transitioned into a mixed bag of Sony and Sharp consumer MiniDisc units, feeding their desire for a physically tangible and inexpensive recording media that could be archived easily, like cassettes.

Mansergh originally was drawn to flash-

card recorders, like the Marantz 680/690. The Marantz offered serious, adult I/Os including the all-important XLR connectivity along with the ability to off-load audio files into a laptop with drag-and-drop ease. Media costs, however, especially for long interviews plus archiving issues, concerned him.

Web site. It is packed with MiniDisc FAQs and user service tips.

How do the 29 HHB units handle the rigors of the news business? According to an old newsroom cliché, "You can make audio recorders foolproof; however, you cannot make them reporter-proof."

The HHB units have been well banged around during their year on the job despite Mersegh's admonishments to the staff to keep the unit in a bag.

"The shock mount on the (recording) mechanism is good but it is not really meant to be dropped onto a concrete floor," Mersegh said. "We have had bent metal and cracked plastic. Some have survived just fine. You know, it is not an all-metal case, like the Sony TCD-5M, but it is pretty solid."

One MDP500 swallowed an errant nickel coin floating around in the reporter's bag. Michael Johnson, KQED digital training manager and resident MiniDisc expert, disassembled the unit as the talent shrugged, "Gee, it worked just fine a few minutes ago."

The problem? The coin had lodged in the MiniDisc slot. Johnson's needle-nose surgery relieved the reporter's pain.

Johnson is an experienced MiniDisc user (four years) and is tasked with keeping the station's MD investment up. He likes the MDP500, at times sounding like the Timex "Takes a lickin' and keeps on tickin'" slogan.

Strong and stable

"It can take a hit and keep working. The mechanism is sturdy, strong and stable," said Johnson. "When I first opened it up, I thought, 'Okay, this has a lot of heft to it.' It will be an adjustment for the staff from the shirt-pocket size units."

Practicality, user friendliness and serviceability are Johnson's main criteria for success.

"One neat feature is that the table of contents (TOC) is held in memory. If your batteries die during a recording or the machine freezes up and has to be rebooted, the TOC is rewritten," Johnson said.

"When KQED does something, they do it big and they do it serious," Johnson said. "We wanted a professional-grade machine, the MiniDisc equivalent of the Sony TCD-5M, something that was going to be rugged and dependable out in the field and interface with our new digital systems that are coming online."

Both Johnson and Mersegh have short wish lists for the HHB: better battery life and drag-and-drop capability through the USB port beyond the current 1X real-time transfer speed. This is more of a limitation of the MiniDisc medium, unlike a flash card or a hard drive.

Mersegh's eyes glaze over when he talks about the future of ENG audio recording. His vision? An Apple IPOD-like device bristling with XLR plugs; a reverse synchronization system; low power consumption plus a lithium polymer battery; buffering audio into memory; FireWire; a 20 GB hard drive ...

Wait a minute, Dan, what about the all-important archiving issue so dear to the hearts of reporters — and you?

You just know he'll work that one out.

You'll find more MiniDisc information from Michael Johnson of KQED at <http://1stperson.org/story.php?s=100> and <http://1stperson.org/discuss.php?s=100>

For information from HHB, visit www.hhbusa.com. A MiniDisc user retail site can be found at www.Minidisco.com.

Christopher Springmann, based in San Francisco, is a professional speaker on business creativity and leadership and a contributor to *Chief Executive* and *California CEO* magazines. Contact him at chris@realheroes.com.



The MDP500 PortaDisc

"Man, I wish the suits would pop for one of those," lamented the AM guy, "it sure would make my job easier."

What happened to radio news recording? Why have so few serious professional players — HHB among them — emerged to capture a niche that was once owned by the ubiquitous, rock-solid 200-series cassette units from Marantz?

The answer is simple: when news budgets talk, the talk gets cheap. Consumer MiniDisc rules news because it is both good and inexpensive. Reliability, however, is another issue.

For instance, KGO's Schell reluctantly went back to a cassette recorder out of fear and frustration when his Sony MiniDisc recorder too often erroneously

PortaDAT was when DAT ruled."

I followed the ENG money trail to KQED, the San Francisco NPR affiliate, where Chief Engineer Dan Mansergh persuaded management a year ago to purchase 25 (later upped to 29) MDP500s, a stunning investment that has paid dividends. Michael Johnson, the KQED digital training manager, maintains the fleet and sustains the MiniDisc Web site.

The bottom line? Bite the bullet and standardize on one recorder.

"We were in the process of going through a digital conversion," said Mansergh. "We needed a recorder with the ruggedness and professional features comparable to the Sony TCD-5M (cassette recorder)."

"The big disadvantage with the IC card recorders is that the media cost does not justify going out and buying a lot of them," said Mansergh. "A key factor in looking at new equipment (for reporters) was having a physical media that was inexpensive. Besides, MiniDisc is digital, quiet, has a fairly mild compression scheme and is consistent with our internal editing format."

Cool color

Besides, the staff liked the "cool" HHB purple color, individual user presets, the built-in speaker, the large controls and display — and the six-second buffer, especially useful for dull news conferences where the reporter might be a little slow to push the record button.

Mansergh needed one standard recorder to support and service in-house instead of the variety of models the station was accumulating haphazardly. He bit the bullet and made the buying decision for the HHB.

"We attracted a lot of attention early on with the HHB units, especially at press conferences," he said.

Is the HHB unit perfect in every way?

"The audio quality is great, the usability of the interface is intuitive and deep; however, the HHB estimates of battery life were optimistic," he said. He generously suggests that the recording mechanism may not be optimized for low-power consumption, although he concedes that he expected that going in.

Mersegh instructs reporters using the HHB's lighted display to do so carefully, conserving battery life for mission-critical applications. This sort of knowledge, based on the station reporters' experience with the HHB units, is available to staff on a proprietary portion of the KQED internal

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PRODUCT EVALUATION

AEQ Swings With Latest Codec

by Mark Greenhouse

AEQ Broadcast International, based in Fort Lauderdale, Fla., and Spain, introduced Swing, a compact, lightweight and easy-to-operate portable ISDN unit.

Measuring a scant 10 by 8.5 by 3-inches and weighing less than 3 pounds, this little mono audio codec comes equipped to handle the multi-

ancillary data channel); ETSI (European) and ANSI (National-1, or US) MPEG Layer II-compatibility at both 64 Kbps and 128 kbps.

Yes, other codecs are capable of these settings, but few do so simultaneously. Other devices permit access to only one ISDN standard at a time. Additionally, the substantial cost of each card for each location must be added to the price of the basic unit.

impressive — Neutrik integrated XLR and 1/4-inch TRS female jacks allow up to three high- or low-impedance microphones or two microphones and one line-level input. Two headphone jacks with independent volume controls and program “mix” pots permit individually tailored monitoring environments.

RJ11 and RJ45 ISDN jacks snuggle next to each other; a second RJ11 is present as well for analog telephone service. An RS-422 V35/x21 interface permits use in a fixed line application by bypassing the terminal adapter function of the unit and just accessing the codecs.

Remote control

An RS-232 port provides for ancillary data and control channel, permitting remote control of the equipment from a PC. A four-wire connector permits auxiliary analog audio input and output, allowing for an intercom between two or more Swings. The device will work as a standalone mixer.

My colleague Michael Cullen sussed out the functions without reading the manual (the real goal of all new gear investigations), giving us confidence that we can expect successful operation in the hands of a trained, non-advanced user.

Setup is accomplished through a familiar pushbutton telephone dial pad; Yes and No buttons; and Up and Down arrows. The tiny backlit LCD screen is acceptable because it toggles important information every few seconds, confirming status and numbers dialed.

Eight-segment LED meters give visual monitoring of transmitted and received signal volume. Large, well-marked knobs line the left and right of the dialpad, along with LED-equipped microphone on and off buttons make the Swing status quite coherent.

Product Capsule: AEQ Swing Portable Audio Codec, Digital Hybrid and Mixer

Thumbs Up

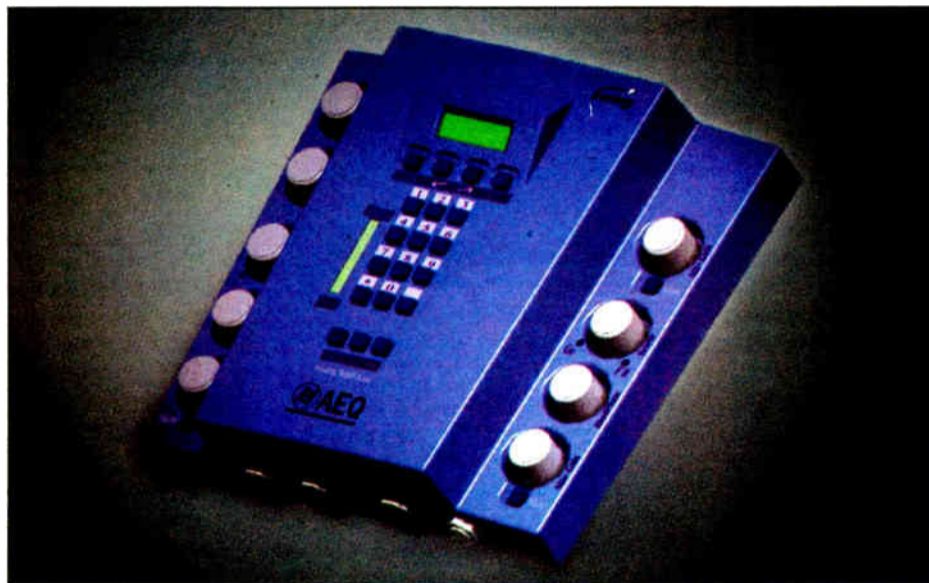
- ✓ Worldwide compatibility
- ✓ Microphone filing down a POTS line (built-in phoner unit)
- ✓ Small footprint
- ✓ Lightweight built-in uninterruptible power supply

Thumbs Down

- ✓ Dialpad vulnerable to being crushed

Price: \$2,295 list

For information contact AEQ Broadcast International U.S. in Florida at (954) 581-7999 or visit www.aeqbroadcast.com or www.aeq.es.



tudinous and often incompatible ISDN interfaces around the world.

Selecting among the DIP configuration microswitches permits the unit to work with the respective geographic area.

With a built-in ISDN terminal adapter sporting dual-port S and U interfaces, the Swing understands its mission — to provide the best possible

The Swing offers a simultaneous-use digital hybrid with echo cancellation and frequency extension, allowing for high-quality transmissions from locations when no ISDN line is available. This feature makes the unit stand out from all others — you can file a spot using your handheld microphone to transmit and headphones to monitor.

This little mono codec is equipped to handle the multitudinous ISDN interfaces used around the world.

transmission method permitted by the location.

Programmable automatic startup configurations include G.711 (allowing voice calls to be placed over an ISDN line); G.722 Statistical (the most widely used algorithm for two-way communications due to low delay factor); G.722 H221/H242 (which provides an

As you can imagine, the fidelity of a traditional phoner filing is distinctly more hi-fi through this unit than a conventional telephone handset. This little wonder box also lets you simultaneously talk on the line and receive a fax. It provides foolproof mix-minus for you. Pretty cool.

The connectivity of the Swing is

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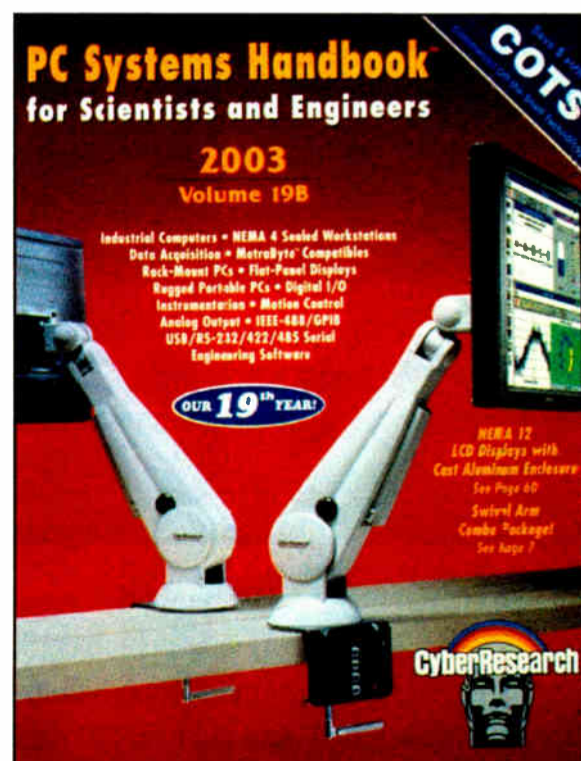
PRODUCT GUIDE

Handbook Details CyberResearch Offerings

CyberResearch offers a line of PCs, workstations, PC systems, backplanes and motherboards, CPU cards, monitors and displays, PC accessories, analog output, digital I/O and engineering software.

Many products are new in the 19B edition of the company's PC Systems Handbook, including LCD monitors with optional touchscreen capabilities suitable for remote broadcasts.

To request a free copy of the handbook call (800) 341-2525 or (203) 483-8815, e-mail to handbook@cyberresearch.com or visit the company Web site at www.cyberresearch.com.





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Cyberjocking: The New Reality

by Scott Fybus

So you think voice tracking and cyberjocking are new developments? Take a trip back in radio history and you will find that for decades, radio has tried to sound live when it is not. The practice dates to the 1940s, when records replaced live station orchestras.

"People thought they were doing the devil's work by saying, 'Here's Glenn Miller' without saying 'previously recorded,'" said Tom Zarecki of RCS-Radio Computing Systems.

In the '50s and '60s, jocks at most top-40 stations were on the air six or even seven days a week, yet managed to take weekends off by recording Saturday and Sunday shows days in advance. Still later, elaborate tape-based automation made it possible for stations to run unattended for hours at a time.

In recent years, however, technology has made it far easier to put an entire broadcast day on a hard drive — and put many jocks out of work. And that, says consultant Mike Donovan of Vallie-Richards Consulting, may actually be improving the quality of radio.

"The people who are left are super-talented," Donovan said. Some talented personalities have been left behind as well, he said, "but that's only temporary."

The latter conclusion, of course, is the subject of much debate these days. But the secrets to a good voice-tracked airshift, said Jerry Padden, program director of WKRZ(FM) in Wilkes-Barre, Pa., are no different from the secrets to making any airshift interesting.

"So many talent go into the production room and just treat voice tracking as regular production," Padden said. "You have to prep before you open the mic."

Padden says one key is to know the music and the mood of the audience. Donovan agrees, offering the story of one

PD who tracks his afternoon shift.

"I could do it at 9 in the morning," the PD told Donovan, "but I don't do it until 2 in the afternoon, because I want to be in the mindset of a person in that daypart."

A dead giveaway (to voice tracking) is doing the same breaks over and over again for an hour at a time.

— Mike Donovan

Donovan says variety is another important key to making voice tracks sound less canned and more like live radio.

"A dead giveaway (to voice tracking) is doing the same breaks over and over again for an hour at a time," he said.

Not for every show

Cyberjocking is not a solution for everything, panelists at an NAB session last year warned. In Padden's case, his hit radio station's top-rated afternoon jock does a spontaneous show that is filled with topical listener call-ins. Trying to move that show to a computer would be disastrous, Padden said.

On the other hand, suggested panelist Karen Young, president of True Talent, voice tracking sometimes can be a huge improvement over live radio.

"There are lots of times you hear a jock and you know they're live, but they're terrible," she said.

Live or in the can, Donovan says there's no excuse for sloppy jock work, even if it is only being heard in a market several time zones away. Messing up localisms, like the

pronunciation of streets and towns, can be fatal, according to Donovan.

And if you are voice-tracking a format with which you are not familiar, take a moment to learn some of the music. Donovan says he once heard a jock who normally played modern rock voice-tracking an adult contemporary sister station — and announcing a Sarah McLachlan tune as "Angel 112," cart number and all!

Another way to sound more like a live jock and less like a "jock in the box" is to spend some quality time with the audience.

"Go to Wal-Mart," Donovan suggested. "Spend some time with listeners there."

Stuck in a studio hundreds of miles from the market you're talking to? Ask the station to send you a local phone book.

"There's a wealth of information in just a common phone book," Donovan said. A talented cyberjock quickly can learn how to find the local color that will make him or her sound like they're just down the street instead of sitting at the other end of an

ISDN line.

Of course, all the advantages of cyberjocking fly out the window when there is breaking news: Padden says he was on his way to voice-track an afternoon shift the morning of Sept. 11, 2001. He immediately pulled his midday jock off the air and returned his morning show to the studio until the station switched to an all-news simulcast.

"You're the PD," he said of such situations. "You get yourself into that studio and get on the air with all the information you can."

In the end, said RCS' Zarecki, broadcasters are still learning how to make the most of voice-tracking technology.

"When telephones were first invented," he said, "people tried to figure out which businesses were most appropriate to have a telephone."

Eventually, of course, people realized that every business had a use for a phone — and Zarecki says that is equally true of radio and digital automation.

"Voice tracking has the potential to make your station sound *more* live and local," he said, "so why not use it?"

PRODUCT GUIDE

ENCO Promotes Phonetic Search Module

Searching for a word in a text document is a familiar function to computer users. Now ENCO Systems is offering *Phonetica*, a phonetic-based search system for digital audio targeted at the broadcast industry.

Available as an integrated module in the company's DADpro32 system, *Phonetica* allows the user to search a library of audio files containing spoken material and find specific words or phrases by simply typing them. The underlying technology has been licensed from Fast-Talk, an Atlanta-based software company.

The company says *Phonetica* will

allow broadcasters to search big libraries of news actualities, programs or other spoken material to locate files that otherwise may have required hours or days to locate — if it was possible to find the file at all.

According to Don Backus, ENCO vice president of sales and marketing, *Phonetica* is "simple to use and quite accurate. You just type the words you are looking for and press the Search button. Then, in order of accuracy, a list of audio cuts where the words appear is displayed."

For more information, contact ENCO in Michigan at (248) 827-4440 or (800) 326-6797 or visit www.enco.com.

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► Continued from page 27

When piggybacked against the more serious fact-filled :30, the entire spot seemed to work all right. The client was happy and the reel went right into my collection.

When I recovered the spot recently, it finally made me stop and think. As elephants are not normally a complement to one's household, why on earth would I be comparing one to a vacuum in the first place?

Would anyone seriously consider owning an elephant on the off chance it might clean floors better? Wouldn't an elephant be cooler for your kids to show off? Could you compare the two side-by-side at the nearest vacuum and sewing machine store?

There is such a thing as suspension of disbelief, but only if there is enough believability up front to establish the reality of the moment. This spot did not have enough of that.

I may as well have been comparing the vacuum to a 1940s vintage Pacific 4-6-2 steam locomotive. Technically, the spot was compelling and fun to produce. Hearing it again a few years later brought out the weaknesses in it.

I, eye ...

I was never fond of another, forgettable demo script for an eyeglass place in Pennsylvania.

On those off-days when we writer/pro-

ducers were stuck for ideas, we would have a brainstorming session as part of the weekly sales meeting. No idea was too weird, or so I thought.

None of us anticipated how hard it was to make eye care sound exciting, or at least entertaining. We kicked around the kid approach, the eyes-are-a-precious-gift thing, the fashion angle and the always-popular sporty workout theme. None felt right.

Our then-sales manager, infamous for decisions akin to those of Dilbert's pointy haired boss, made one such executive decision: "Let's have two eyeballs talking to each other."

Stop saying 'w-w-w-dot' in Web addresses. Saying all those Ws twice in a spot eats up as much as 2.5 seconds.

Wha...?

"Let's have two eyeballs talking about how great this particular store is," he told us. "Al, write a script, then do that thing where you speed up the voices or Harmonize them or something. That's what we'll do."

Having the approach did not make the job any easier. First, how do I establish two talking eyeballs right away without blatantly coming out and saying, "Hey, aren't you a talking eyeball?" Then of course, what would they say to each other that would compel folks to buy their

eyeglasses from the client?

I am here to tell you that not even theater training could come to the rescue on this one. I took a Method class ages ago where one scene study had us improvising as acorns trying to talk chipmunks out of eating us. It was lame then, and it failed me now.

I finally came up with a semi-slapstick script with some Stooze eye pokes, sped-up voices and the cliché "it's a miracle" harp glissando when the new glasses are fitted for the first time.

Mercifully, the demo was never produced. I despised it even as I wrote it.

I have more tapes to go through, but before I do, I hope I can help you avoid some of the traps I fell into and maybe save your creative juices from boiling dry under the heat and pressure.

Many of these pointers are obvious to folks who have been at it for a while. Some broadcasters who have inadvertently found themselves thrust into a production position with little warning may not be as aware.

Similarly, the generation raised on the Internet and MTV may be going more for style than substance, in which case they may never have had a crash course in the fundamentals — going instead for the flash and dazzle rather than the message.

Granted, there is a strong market for that, and those producers are rewarded handsomely for it. But the day is coming when that sofa store or funeral home commercial has to be written. Try setting that to a sampled breakbeat!

'It's the Swiss Army Knife of toilet paper!'

— Ad slogan best left unused

One major pitfall to avoid is settling on the very first "button," or summary slogan you come up with.

I once worked with a prolific copywriter named Debbie whose established formula for writing included catchy, memorable little wordplays toward the end of the message.

Warning, Will Robinson

She was a marvelous writer capable of voluminous daily output. Often, structure took precedence over common sense, which led to frequent rewrites and occasional bummed clients.

Like, f'r'instance, the diving shop client who was stunned to hear his spot summarized with, "So make all your dreams involving the word 'wet' come true."

Or her tribute to an ethnic restaurant, saying, "It's become a Mecca for fine dining," ignoring the fact that "Mecca" in the literal sense is a Muslim shrine in Saudi Arabia, and the theme of the restaurant was a pork BBQ joint. Not

the best of friends, you may admit.

Next, be realistic about what should and should not be done on the radio. Ever see or even write a piece of copy that asks for three telephone rings before a character answers? Those three rings eat up anywhere from 12 to 15 seconds of that expensive message — time better spent selling a product.

This is an appropriate time to stop saying "W-W-W-dot" in Web addresses. Many folks already know how a browser works, so a simple "my-company-dot-com" in a spot is more than adequate.

You might be surprised to know that saying all those Ws twice in a spot eats up as much as 2.5 seconds, and in a :30, that can be a lot.

Best left unsaid

Finally, as a public service to our readers, may I suggest that clients wishing to air the following commercial content be politely told to take the spot up the street to that other station:

"Hey kids, now there's a vodka drink just for you that fits right on your handlebars!"

"It's the Swiss Army Knife of toilet paper."

"Doctors in a major study agree: Americans are not getting enough glass fragments in their diets."

"The first blade shaves you close ... the *eleventh* blade even closer ..."

"Keep those squirrels out of your yard with the amazing exploding bird feeder."

"That tingle of electricity in your bare feet tells you your shower is exactly the right temperature."

"Disposable wood stove ..."

Radio World

The Newspaper for Radio Managers and Engineers

"Radio World is a great magazine. As a public radio station manager who is desperately trying to make every penny we spend on technology count, I don't make a move without consulting RW and RW Online."

Michael Davis, General Manager
— WUSM Hattiesburg, Miss.

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Maynard Meyer, General Manager
— KLOP-FM Madison, Minn.

Our readers have something to say

"RW has been very helpful in our purchasing decisions. I find myself holding on to past issues of RW so I can refer back to information or ads that I feel might be useful in the near future. Keep up the great work!"

Al Sergi, General Manager/Owner
— Summit Media Broadcasting, LLC Sutton, W.Va.

"I believe Radio World is the single most important source of information for the long-term broadcasters of today. I applaud the efforts of the publishers and editors at IMAS and Radio World. You've kept me reading this newspaper steadily since 1985 when the then-CE of KCFV/Ferguson, Mo., (the college radio station where I started my career) left his issues of Radio World out in the office for all of us to read. For me, it remains a vital learning tool. I pick up news and information about engineering, management, marketing and techniques that I wouldn't normally think about."

Ralph Ullrich, Vice President
— Ullrich & Associates St. Louis, Mo.

Studio Routing, Wiring and Shielding

by Blažo Guzina

Radio station owners and audio engineers know that the design of a studio is not finished once the acoustical consultant leaves. From the standpoint of an audio consultant, in fact, the job is only just starting.

Providing that the location of each piece of equipment is defined, the next step is to lay the cables.

As an acoustician, I prefer to integrate cable runs and conduits as part of the acoustic wall treatment, while still fulfilling the requirements of the owner and recording engineer as far as floor ducts are considered.

Along with ensuring enough room for future cable expansion, it is important to ensure easy access to ducts and junction boxes. Therefore, cable conduits must be constructed with removable covers wherever appropriate.

Mandatory separation

Separate conduits for high- and low-level cables are essential in preventing unwanted interference, hum and noise. Low-level cables include almost all audio cables, except for cables between the amplifier and loudspeakers. High-level cables are AC wiring, including lighting and loudspeaker cables.

Separate conduits for high- and low-level cables are essential in preventing unwanted interference, hum and noise.

In some organizations, 4 to 8 inches of physical separation between high- and low-level cables is mandatory.

As a designer, I prefer to run low-level runs horizontally behind the skirting on the walls at floor level, and all high-level cables at ceiling height, with vertical distribution of branches until the termination outlets.

But this is not sufficient. It is also important to separate AC power supply at the mains distribution board into two independent circuits.

One circuit should supply only audio equipment, while the other should supply everything else, including lighting. This simple measure can help eliminate annoying clicks and pops from switches and contacts.

To further prevent interference, ground cable conduits and take care to separate the grounds for the audio and the mains supply.

Audio grounding has to be noise-free, clean and at zero ground potential. Mains supply grounding usually is organized with a central point and

"star" feed to all mains outlets and equipment racks from this point.

The central point is located in an easily accessible place in the main equipment rack and connected to the independent technical ground or the incoming mains ground.

To avoid possible hazardous situations, take care of grounding system integrity and never disconnect the mains ground from any piece of equipment.

The practice of removing the mains ground from equipment is, in most cases, illegal.

Probably the most frequent cause of audio engineer headaches is a hum and noise level in the audio circuitry of newly

constructed or refurbished studio premises. All equipment connected to the mains is a potential source of electromagnetic and electrostatic radiation.

Interference conductor

To make things worse, the mains also acts as a conductor for many forms of radio frequency interference, generated by a broad range of electric equipment, especially motors.

That is why a separate high-conductivity technical ground is sometimes inevitable, in order to avoid the eventually inappropriate incoming mains ground.

Because this measure alone is still not sufficient, ensure adequate shielding.

Once equipment is connected to the power supply and grounded, the audio engineer has to think about audio interconnections and efficient shielding of these interconnections.

Professional audio equipment generally is well shielded and with deliberately chosen low impedance.

Devices with high input impedance, however, such as amplifiers, are open to interference and may cause problems. Also, avoid running low-level cables, especially for microphones, near high-current equipment.

The most common sources of unwanted signal are extraneous electromagnetic and electrostatic fields, noise and interference on the grounding line and capacitive coupling between the shielding and the signal wires.

See WIRING, page 37 ▶

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The Time Sync II provides four separate GPS time referenced outputs. The first is a SPDT relay which pulses once every 15 minutes. These times are programmed for 13:00, 28:00, 43:00 and 58:00 after each hour. The second SPDT relay pulses at the "Top of the Hour" (00:00). This time may be user programmed. The third output is an open collector with a 100 ms pulse every second while the fourth output is an

4800 baud, RS-232 serial port providing UTC time in HH:MM:SS format. The final feature is the "SIG" led and SPDT relay, furnished as fail-safe for either loss of satellite or power and invalid time. The Time Sync II is supplied in a small profile chassis, along with a Garmin 12 - Channel GPS receiver with embedded antenna.



ICM-16/MHI



ICM-16/Controller



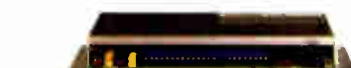
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Wiring

► Continued from page 35

Most audio engineers know that it is important to connect the shielding to the ground at one end only, so that it cannot conduct any signal current, thus minimizing the adverse effects of the unwanted coupling to the signal wires.

If there is a signal on the wires within a shield, it will be capacitively coupled to the shielding, and this current will be returned to the signal source.

Therefore, connect the shielding only at the signal source end (never to the destination end), thus avoiding the direct return path of the unwanted interference current.

If there is a high level of radio frequency interference, connect the shielding to the ground via a 0.01 µF capacitor, acting as a short circuit at RF only and without influence on low audio frequencies.

Signals accumulate noise as they flow through the equipment interface and, once there, it is impossible to remove the noise without signal degradation.

Because the overall technical performance of an audio equipment chain cannot be better than its weakest link, noise and interference must be prevented all along the signal path.

Balanced or unbalanced lines?

Balanced lines, known also as floating lines, are characterized by a three-wire configuration, where two wires carry the audio signal and one wire acts as an electrostatic shield.

The twin signal wires are both isolated from the ground and suitably terminated, so as to be at equal voltage potential but opposite polarity.

The use of balanced wiring with surrounding shielding conductor discriminates against unwanted stray

fields more effectively than unbalanced wiring.

Unbalanced lines are those consisting

of two conductors, usually one inside the other, with the outer conductor shielding the inner one.

An audio system incorporating balanced lines, along with equipment with balanced inputs and outputs, is the ideal for professional installations.

When two pieces of equipment are

connected via an unbalanced cable, no matter whether their mains supply is connected to safety grounding or not, the noise voltage between the two chassis grounds will cause current flow in the shield conductor. Hence this noise will be directly added to the signal at the receive

end of the line.

An audio system incorporating balanced lines, along with equipment with balanced inputs and outputs, is the ideal for professional installations.

Once the equipment is installed in its working position, a typical checklist for studio premises would include testing absolute polarity of all signal paths, checking the patchbay for correct identification, checking all systems for RF interference and testing noise and hum levels through main signal paths.

Blažo Guzina is a senior engineer at Radio Televizija Srbije in Belgrade, Serbia. He is a professor in the Sound Recording Department of the Arts Academy at Univerzitet Braća Karić. Contact him via e-mail to blazo_guzina@yahoo.com or visit www.bg.dk3.com.

Broadcast Connection Expands

Broadcast Connection recently opened a second sales office. Located in Richmond, Ind., the office is headed by Steve Ellison and serves the eastern half of the United States.



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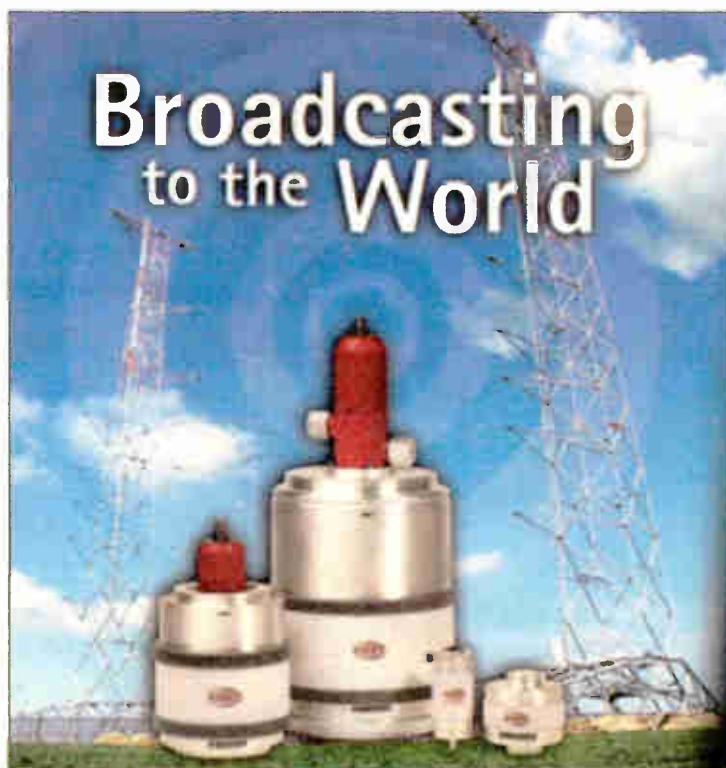
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PRODUCT GUIDE

Legend Packets Guide Engineers

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The packets take users through the creation and specification process, beginning with cap styles, font styles, characters and text, through the choices of color, printing methods and legend orientation.

NKK offers various styles of caps for illuminated switches. Users can choose the legend on the cap exterior or specify a three-piece cap assembly featuring the legend marked on the center filter.

Non-illuminated pushbutton and rockers are available in a variety of sizes and styles of actuators for designing custom legends.

Legend packets are available for download from the company Web site or requested directly from the company.

For more information contact NKK Switches in Arizona at (480) 991-0942 or visit www.nkkswitches.com.



Kit Creates Adapter Combos

RF Connectors, a division of RF Industries, has an adapter system that allows field and bench technicians to join two Unidapt adapters with standard coaxial interfaces. The RFA-4018 kit has universal center adapters that can be used to create hundreds of adapters on the fly.

With the kit, a technician can test cable assemblies terminated with BNC, Mini-UHF, N, SMA or UHF connectors by using the FRA-4018-20 Unidapt cable tester. The kit contains the cable tester and 30 adapters in a foam-lined plastic case.

For more information from RF Connectors contact the company in California at (800) 233-1728 or visit www.rfindustries.com.



All-News Format Debuts From VOA in Canton

The Voice of America Cantonese Service launched an all-news format in southern China on Jan. 6. The format features regional and local news reports.

World news reports alternate every quarter-hour during the 9-11 p.m. broadcast, which can be picked up locally via shortwave, AM and the Internet (www.voanews.com/Chinese).

According to VOA Director David Jackson, the Cantonese audience wants up-to-the-minute news about the world and the new format was created to meet the demand.

The reports open with headlines every 15 minutes with short news briefs of world, regional and local events. This is followed by correspondent reports on U.S. policy issues and China news. Also included are short English lessons and other features. Listener feedback indicates that VOA news broadcasts are considered to be accurate, comprehensive and balanced.

For more information go to www.voanews.com.

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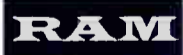
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A Designs

► Continued from page 27

The MP-2 has a one-year limited warranty for internal parts, a 30-day limited warranty for labor and a 30-day limited warranty for tubes.

A Designs has had a positive response to the MP-2 and has recently announced the release of the MP-2R, optimized for use with ribbon microphones.

Ribbon

The MP-2R has more gain than the MP-2 and has an input impedance designed to work perfectly with classic ribbons such as the Coles 4038 and the RCA 77DX, as well as modern masterpieces such as the Royer R-121 and SF-12.

Much of what you might use the MP-2 for would be preamplifying a vocal microphone. Part of my evaluation included a music recording to see how well it performed with various instruments.

During a tracking session I put one channel of the MP-2 to work on a kick drum with a D 112 and the other on the snare using an SM-57 and had great results in both cases.

The MP-2 is suitable for high-quality voice recording and those times when an instrumentalist visits for a live performance.

On the kick I found the bottom end to be far more tight and punchy than the sound I typically have achieved with a tube mic pre, and the snare had a wonderful sparkle that seemed to be enhanced by the tubes.

On another tracking session, I was able to use the MP-2 with a pair of Royer SF-1s and a pair of Empirical Labs Distressors to record drum kit ambience; again I had great results.

I put the MP-2 to use recording electric guitars for Canton, Ohio's Relient K and had wonderful results. I found that placing a Royer R-122 about 4 inches from a Marshall 4 x 12 cabinet and running through the MP-2 needed no additional processing.

I ran directly out of MP-2 into an iZ Technologies RADAR hard-disk recorder and recorded fabulous-sounding electric guitars.

Next I went to work recording vocals through the MP-2 with a Brauner VM1KHE and a Sony C-800G (both tube mics).

In both situations I ran the preamp's output into a GML 8200 EQ and Tube Tech CL1B compressor and had fantastic results. I also found that the MP-2 did a nice job smoothing off the edge of an Audio-Technica 4033 while recording female backing vocals.

I was also able to use the box in several situations while recording a track for an animated children's film and found that it worked well recording accordion, tuba and slide whistle.

As the rear-panel 1/4-inch input has been updated to accommodate an instrument instead of a microphone, I would

Product Capsule:

A Designs MP-2 Mic Preamp

Thumbs Up

- ✓ Good price
- ✓ Great sound
- ✓ Great for live instrumental performances on air

Thumbs Down

- ✓ Difficult to make small adjustments (new version corrects this)
- ✓ No instrument input (new version corrects this)
- ✓ No front-panel 1/4-inch input

Price: \$1,499

For information contact A Designs in California at (818) 716-4153 or visit www.adesignsaudio.com.

like to see additional 1/4-inch inputs on the front panel. It is often a pain in the studio to climb behind a rack to plug in a guitar cable and the convenience of having inputs on the front panel would be worth a slightly higher cost.

The only other complaint I have with the MP-2 is that I found it difficult to make small adjustments with the level control due to its extreme sensitivity.

A Designs' Pete Montessi confirmed that this was a complaint by a few of his customers so he altered the volume control design so this will not be the case in the future.

The A Designs MP-2 is a simple, straightforward, affordable stereo tube microphone preamp of exceptionally high quality packed into a 2 RU box. The pre may be just the answer for those from the project studio needing a single high-quality mic pre to handle all of their recording needs, to a full production studio needing to add an option to their pre-amp selection pallet.

Russ Long, a Nashville-based producer/engineer, owns The Carport recording studio. He is a regular contributor to Radio World's sister publication Pro Audio Review.

Review Setup

Apple 400 MHz PowerMac G4; Pro Tools v5.1.3 Mix+; iZ Technologies RADAR 24 with Nyquist 96 kHz card; Lucid Gen-X-96 clock; Mogami cabling; Hafler amplification; PMC TB1, Yamaha NS-10M monitors; GML 8200 parametric EQ; TubeTech CL-1B, Empirical Labs Distressor compressors; Sony C-800G, Brauner VM1-KHE, Royer R-122 and SF-1, AKG D112, Shure SM-57 microphones.

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McCurdy 11 channel, stereo console. Pulled from service in 2001. For donation to non profit organization - you ship. Rick Keefer, KICA, 1000 Sycamore St, Clovis NM 88101. 505-762-6200.

Schafer 5 channel mixer, very nice but goes "as is", ready to ship w/manual, \$100 +shpg. Mike Raley, 704-523-5555 or email: Mraley@bbnradio.org.

Yamaha 03D digital mixing console, \$2000. Peter Stover, Educational Media Corp, 830 Gunnery Hill Rd, Spotsylvania VA 22553. 540-582-5371.

German-made Studer 24 channel console & cabinetry. Ideal for a recording studio. Unit was working just before cables were cut (leads still connected). Complete set of manuals in English. To large for our non-profit Christian AM operation, BO as is. Roger, WNLR, POB 400, Churchville VA 24421. 540-942-4242.

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McCurdy Penny & Giles slide pots (2), \$2500 ea. Brian Larson, WNGN, 65 Kings Rd, Buskirk NY 12028. 518-686-0975.

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Teletronix LA-2A's, UREI LA-3A's & LA-4's, Fairchild 660's & 670's, any Pultec EQ's & any other old tube compressor/limiters, call after 3PM CST, 972-271-7625.

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Radio World, February 1, 2003

GUEST COMMENTARY

The Myth of the Tower-Kill Bird Massacre

The Author Says This Particular Legend May Be a Big Flap Over Nothing

by Fred Baumgartner

This is a strange personal coincidence, involved as I am in promoting fair and reasonable tower and antenna regulation as chairman of the National Antenna Consortium and having grown up in Eau Claire, Wis., home of the so-called "worst bird tower-kill incident of all time."

It is nonetheless true, and I believe my experience (or more precisely, the lack thereof) with the incident gives me the opportunity to ask some pointed questions about the veracity of the tower-kill story.

Towering insanity

The questions are important given the recent Fish and Wildlife recommendations that all towers should be under 200 feet and without lighting, and the announcement of suits by at least one group to prevent the FCC from granting licenses that would require tall and lighted towers because of the danger to migrating songbirds.

In 1974 an Eau Claire tower reportedly killed 30,000 birds in a single night.

Eau Claire does have one large tower, about 1,100 feet, belonging to WEAU(TV). By 1974, the TV station transmitted from a 2,000-footer 30 miles to the south. There was, and I believe still is, a 14-bay FM, belonging to WBIZ(FM), and a series of RPU, STL, two-way and other antennas on the tower.

I recall the use of the word 'dozens,' but never '30,000' until years later.

While the reports never say which tower, it's hard to imagine any other. Likewise, the type of bird(s), if mentioned, is usually reported as "song birds."

Over the years, I've been involved in a number of tower constructions, and almost all of them have involved at least some level of regulatory insanity. Once, at a public hearing, a surprise Russian RFR expert was spirited in from Moscow to testify that a UHF transmitter we wanted to build in the mountains posed a serious health threat to the lone nearest resident 1.3 miles away ... at least by Russian standards. That wasn't the weirdest tower regulation story, but it's easy to tell with brevity. Hence, the responsibility I feel to do something to promote fair and reasonable tower and antenna regulation, and thus my voluntary work with the NAC.

I'm proud to call Eau Claire my hometown. I graduated from E.C. Memorial High School in 1973, and spent my freshman year at the University of Wisconsin-Eau Claire, working part-time as a very bad DJ and neophyte technician at, you guessed it, WBIZ, whose antenna was on said tower.

Worse, I was messing with ham radio and constantly biking over to Bushland Radio Specialties, located next to the Tower Bar, both less than a stone's throw from the base of said tower.

I sincerely doubt that the 'biggest bird kill' ever happened.

I can't remember if it was fall or spring 1974, but I do remember the story of the bird kill on the 10 o'clock news. They couldn't have missed it, as the TV studio isn't too much farther than the bar is from the tower, and the 16-foot studio door was always open outside in lieu of air conditioning. As I recall, it involved migrating geese (the Bob Dylans of songbirds, I suppose) on a foggy night.

I recall the use of the word "dozens," but never "30,000" until years later.

Geese are fairly big birds, and travel in a distinctive "V" formation. As a kid, we counted the geese, and about 100 to 200 in each formation is normal.

Stunt geese

Having 150 to 300 of these formations, each competing for flight plans to achieve a near 100-percent fatality rate in one foggy night, seems somewhat unbelievable to me. Paint yourself a mental picture of all these formations of geese, a quarter-mile across, flying away from the tower, regrouping in the fog, rotating slowly around an imaginary pivot point miles away, relocating the tower (all the while out of sight) and making run after suicide run; each pass picking off a few birds at a time.

And why only in 1974? Why not every year, or every 10-years? Did tower

avoidance become part of the survivors' genetic memory? Certainly the weather conditions that lead to this disaster have been repeated somewhere within the last quarter century.

A compressed goose takes up a good half a cubic foot — a bit smaller than the famed WKRP frozen turkeys. I don't recall seeing, hearing or hearing about the 160 or so 10-yard capacity dump trucks that would be needed to haul them away. Certainly this would have made the National Enquirer? Gee, if it took 4 hours, that's 120-bird collisions and falls per minute, a "stranger than science" 4-hour-long dead-bird blizzard in the fog. The stress



Fred Baumgartner

trucks or left the Tower Bar to slog through a wall of dead birds and remembered it.

It's not the kind of thing you forget. It would be at least as memorable as that Hitchcock movie, "The Birds." The '70s, I do remember. Certainly "The X-Files" would have borrowed the plot as the series dragged on.

The real predators

I have, however, watched birds of prey work from a tower, killing off small furry mammals and tiny birds day after day. The 150-foot perching point probably gives birds an unfair advantage. I have had barns for some time, and I'll testify that barn cats are very tough on birds, and cars too. Honestly, each cat we've had surely dispatched more birds than all the towers I've worked with, tall and short, lighted and not. I'm not sure what part of the food chain I should prefer this week.

Even so, my wife and I have a dozen cat-proofed bird feeders and two birdbaths on our place, which we call Whippoorwill Farm. The ham tower and long wires are play toys to the birds. The birds are tougher on the antennas than the antennas are on the birds, from what I can see.

Extraordinary claims require extraordinary proof. Let's see the cards. Bottom line? I sincerely doubt that the "biggest bird kill" ever happened. Proof should be easy to come by. Crop circles, cattle mutilations and tower bird kills sure look a lot alike from here. I do enjoy www.towerkill.com though.

I want to believe. I'm taping an "X" on my window right now.

Fred Baumgartner is chairman of the National Antenna Consortium, www.antenna-consortium.org.

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Problems with CFA

There can be no doubt at all that the so-called crossed-field "antenna" theory is utter rubbish ("CFA Progress Appears to Be at Standstill," Nov. 20).



Here's why:

1. If the CFA theory of electromagnetic radiation had any basis in fact, why are NEC-based antenna-modeling programs, which take no account of it, so capable of modeling such a wide range of geometries? (The Numerical Electromagnetic Code is an antenna-modeling program developed by the U.S. Navy that can predict the performance of all known antennas quite accurately.)

2. If separate E and M fields could "cross" in space to produce EM waves, all radio frequencies would intermodulate to some extent, which would produce nonlinear spurious frequencies as a byproduct of radio wave transmission through space. It is quite certain that this does not happen (first posited by Mr. Trevor Brook).

3. In March 1991, I made and tested a CFA carefully. It was based at ground level, not on a roof, and it did not radiate effectively. Please note that the Egypt CFAs are roof-mounted, which means that the height of the electrical system, including earth, return is far greater than the claimed — and photographed — height of the construction.

4. Tellingly, as a CFA is phased up, the radiation does not appear to "peak" sharply at one phase setting, as predicted by CFA theory.

5. After years of hype and messing around, there was no positive result from Shropshire.

What more evidence do we need? In

the interests of this intriguing idea, the last 12 and more years have been littered with junk science, wild claims and failed or incomplete experiments, not to mention a considerable quantity of melted phasing components! But hey, wouldn't it be just *so* great, if only it worked?

If only? If only. ... Now look, don't get me going on the subject of digital radio.

Martin Spencer
Free-lance Engineer
Brighton, U.K.

martin@b-right-on.demon.co.uk

Broadcasting, electronics and jobs

Broadcast engineering? What's that got to do with electronics?

After getting laid off as a test tech in the engineering department (I took care mostly of RF issues) from a major telecom manufacturer, I find myself looking for work again.

What I have come across the last few months amazes me. In two interviews, the person giving me the interview would come across my education (I hold an AAS degree in broadcast engineering Technology from Northern Virginia Community College) and they would ask what broadcast engineering had to do with electronics?

One job I interviewed for was servicing video games (let's not forget there's video, audio and software here), and the other was for working in a repair center for consumer electronic items (TV, VCR, DVD). After I answered their question about this, they never thought about broadcasting involving electronics. They never thought that transmitters had resistors, caps, inductors, IC and even software to control the transmitter.

You ask if I tried to get a job in broadcasting. I had two interviews for a station group up in the Midwest and one for a major transmitter manufacturer. It seems that, since it's been a while since I've been involved in broadcasting (12 years), they don't want to hire me. And that's another story for another time.

William Gaddis, CBRE, CBNT
Irving, Texas

Sound terms

"Effortless: Low distortion, usually coupled with flat response. Etched: Clear but verging on edgy. Emphasis around 10 kHz or higher." — Jeez, I don't know.

I'm a broadcast engineer who mixes

A Timely Pat
On the Back

A recent study of consumer attitudes toward radio, commissioned by the NAB and conducted by The Mellman Group polling firm, has given Radio World reason to pause and consider the question: What does the average person really think of radio?

The answers are positive, perhaps surprisingly so.

The most important numbers: 65 percent of Americans are either satisfied or very satisfied with the job their local stations are doing in providing news and entertainment, and 78 percent say local stations play an important part in providing news and information to the community.

The results come from a poll of 1,000 consumers conducted in December.

What these numbers tell us is that reports of radio's death have been greatly exaggerated. Despite the plethora of entertainment and information provided by TV, satellite radio, the Internet and newspapers, people still tune to traditional radio as an important part of their daily lives.

The survey also covers diversity in programming. Fifty-six percent of Americans say their favorite local stations play music they like most or all of the time. Seventeen percent say local stations provide less variety than they did five years ago, but 29 percent notice more variety, and 21 percent see the same amount of diversity.

This calls into question the assertions by some critics that large media groups are creating undesirable cookie-cutter format stations, with Clear Channel the most frequently targeted by such complaints. NAB has long disputed that consolidation leads to less diversity on the air.

However, definitions of diversity differ. Thoughtful managers must wonder whether the public can even know what it's missing. Brave radio managers can be found who are willing to state publicly that radio has indeed risked its assets by becoming more homogenized. Radio World is among those who feel that radio endangers its future if it does not ask itself hard questions about these trends and whether we're already headed down that slippery slope.

This study was commissioned by NAB at a time when the FCC is considering easing ownership rules. The lobby clearly has an interest in the study's conclusions. Critics produce their own studies about listener dissatisfaction and will question the impartiality of an NAB-sponsored study that seems to prove what the NAB has been saying all along.

There is much here to celebrate, though. The NAB is right: Radio is of everyday importance to vast numbers of Americans at a time when those listeners have numerous new choices.

According to the study, 70 percent listen for news and information several days a week, with 51 percent listening every day. Divide that 70 percent up and we can see the medium is important to people regardless of age differences. That number includes 63 percent of the 18-34 age group, 76 percent of people 35-54 and 69 percent of Americans 55+.

The American public thinks radio is important, listens to it often, thinks the programming offerings are diverse, and most important, thinks radio does a good job. This study is a reminder to tell our story more often. It also reminds us that we have a great investment to protect and that hubris can be costly.

— RW

live sound for broadcast. I've spent more than 35 years on the other side of the glass, and for the past couple of decades I've mixed about a thousand songs a year and have well over 20 CDs in the bins.

I've never had to resort to these made-up words ("Glossary of Sound Quality Terms," Nov. 20) to get my points across to our visiting performers and their sound folks. Instead, we negotiate fixes based on the sound we hear.

"Effortless," "etched" and the rest of that list constitute a little language that's developed over in the recording industry. I'll try anything to avoid this stuff. I even put up a sign that said "No tech speak!"

It didn't work. They still come

bursting through the door saying stuff like "He'll sound boxy unless you take out 2 at 300." Poppcock, I say. After they sit with us for a while, we usually have them making their points using regular English.

Most of our headliner performers come back year after year. I think they like working with us and know we make them sound good without resorting to this sort of babble. Whatever ... I just hope I don't begin to hear this stuff from my colleagues in the broadcast industry.

Francis Fisher
Broadcast Engineer
"Mountain Stage"
Charleston, W.Va.

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World Radio History

