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Those 'Earbells' Are Spending The latest Webcasting study shows online visitors are putting their money where their mouses are.

'The Voice' Thrives Joe Cipriano carves out a voice career in TV and radio.

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See Page 81

Radio World

The Newspaper for Radio Managers and Engineers

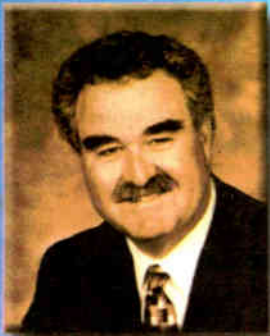


August 18, 1999

THE NAB RADIO SHOW



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When Will IBOC DAB Be Complete?

by Leslie Stimson

As the industry stares down the end of a century, how close is the United States to completing development of a commercially viable in-band, on-channel digital audio broadcasting system?

The question is important as radio faces competition from satellite-delivered digital radio in the next two years. Also, steadily improving compression algorithms such as MP3 are making it easier for consumers to download their favorite music from the Internet. These and other factors mean more competition for traditional AM/FM radio, especially in the car.

In the field

The proponents developing IBOC DAB systems have moved from the lab to the field to test their systems. At the same time, USA Digital Radio, Lucent Digital Radio and Digital Radio Express are working with manufacturers to ensure that IBOC-compatible transmitters and receivers are ready at the same time as the technology for what IBOC proponents and equipment manufacturers hope is a rapid product rollout in 2001.

That target would hold assuming that a single IBOC standard is chosen next

year and that FCC rules are in place to govern the digital transition. The FCC has said it intends to release a Notice of Proposed Rule Making on IBOC DAB at the end of this summer.



The commission is observing the IBOC development process and the progress of the National Radio Systems Committee. That standards-setting group is administered by

the National Association of Broadcasters and the Consumer Electronics Association. A source close to the commission said that the FCC ideally would like to see a consensus on one IBOC system emerge from the NRSC.

Most experts watching IBOC development agree that a single standard must be selected in order to avoid consumer confusion and hasten acceptance of the new technology so that consumers buy IBOC-compatible receivers. They also predict manufacturers would be reluctant to commit production lines without a standard.

One standard

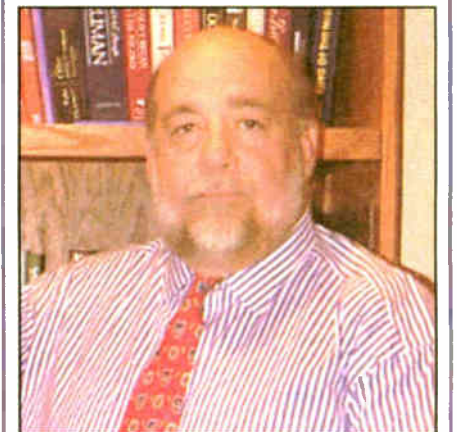
"Broadcast Electronics believes one standard would make this successful," said Rick Carpenter, vice president and general manager of BE's RF systems division. "A multiple standard would

See DAB, page 12 ▶

NEWS MAKER

Operating A Historic Radio Group

TULSA, Okla. Jim Smith has a job that was almost inconceivable just a few years ago.



Jim Smith

As the senior vice president, operations, for Clear Channel Communications, Smith is responsible for the technical facilities of 476 radio stations, including those that came to be part of Clear Channel in

See SMITH, page 14 ▶

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◆ NEWSWATCH ◆

Chancellor Now 'AMFM'

Shareholders have approved the merger of Chancellor Media Corp. and Capstar Broadcasting Corp. and have renamed the new entity "AMFM Inc." to reflect the company's status as the nation's largest radio group, with about 465 stations. Shares of AMFM stock are now trading on the New York Stock Exchange under the symbol AFM.

"AMFM is poised to pursue a tremendous opportunity for growth — merging our industry-leading radio operations into the most exciting new medium of the late

20th century — the Internet," said R. Steven Hicks, chief executive officer of AMFM's New Media Group.

NHL Sees Score In LPFM

WASHINGTON The National Hockey League has proposed creating a low-power indoor sports arena radio service on the FM band.

In its proposal to the FCC, the NHL stated that, "The signals of the radio and TV stations that have been granted the rights to

broadcast the games typically do not penetrate the arena at all, or at best very poorly."

The NHL wants to operate its own arena stations to explain referee calls and hockey rules. The NHL also would use the stations to provide entertainment and other information before the game, between periods and after the game.

The NHL tested its service with power levels of less than 5 watts in Washington, D.C., and Detroit in June 1998 during the Stanley Cup Playoffs. The NHL said it operated its service with no noticeable interference to local stations on adjacent frequencies, either inside or outside the arenas.

Reply comments on RM-9682 are due to the FCC on Aug. 24.

Radio Auctions Set for September

WASHINGTON The FCC has announced procedures, deadlines and opening bids for the broadcast auctions set for Sept. 28.

The commission revised the opening bids based on comments from bidders. While the agency lowered some

See NEWSWATCH, page 3 ►

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Sales Issues Stymie Public Radio

by Leslie Peters

PORTLAND, Ore. Selling time for public radio is not easy these days.

Forced by federal cutbacks to increase private funding, public radio has stepped up its efforts in recent years to sell underwriting to businesses.

But burgeoning success in this area has been plagued by conflicts within the industry. Some public radio executives believe that underwriting now sounds too commercial, and those who solicit underwriting face a phenomenon called "underwriting anxiety" — a perception by listeners that on-air business spots are increasing and have become annoying, and that underwriters may interfere with program content.

These conflicts within the public radio community about how station money is raised were evident at the annual Public Radio Marketing and Development Conference, which met in July.

Sponsored by the Development Exchange Inc., an association of public radio fund-raisers, conference panelists

offered several sometimes contradictory advice on underwriting.

One workshop focused on a survey of underwriters conducted for the Public Radio Underwriting Partnership, a federally funded training project aimed at helping stations increase spot sales.

Project consultants spoke enthusiastically about ways in which businesses value public radio, with its audience of upscale, educated listeners. They urged underwriting sales representatives to target companies interested in image enhancement, by selling "the halo effect" — the goodwill most listeners extend to entities supporting public radio.

"Find a polluter in your town who's being sued by the EPA," said consultant and commercial radio veteran Jim Tazarek, only half-jokingly.

Despite the widespread use of rate cards and sales commissions, those who sell underwriting learned that, legally, they are not actually selling spots, according to DEI's general counsel, John Crigler.

Business underwriting is a "gift" to be accepted or refused. Sometimes, refusals are noticeable. Earlier this year



Manager Patricia Wente-Bennett on how to avoid selling spots to would-be clients whose sensibilities might offend public radio listeners.

At yet another session, underwriting sales representatives fretted over what to do about the "underwriting anxiety" finding from Audience 98, a comprehensive study of listener attitudes funded by the Corporation for Public Broadcasting. Almost half of public radio's audience suffers from this wariness about corporate support, according to the study.

Listener contributions supply public radio with about a third of its revenue, while only 15 percent now comes from underwriting — the same proportion that comes from Congress.

"Our biggest concern is that, according to Audience 98, more than a third of our listeners say that they will be less likely to contribute to public radio in the future if more businesses support it," said John Sutton, a public radio fund-raising consultant who helped write the "underwriting anxiety" report.

The underwriting conference convened shortly after a three-part series called "Commercial Public Radio" aired on "Marketplace," the nationwide afternoon business program. The reports offered an examination of "underwriting anxiety" and "creeping commercialism" in the public radio industry.

Aware that members of Congress may have heard the series, most public broadcasters at the conference appeared anxious too — over the possibility of more

See UNDERWRITING, page 6 ▶

KWMU(FM) in St. Louis won a court battle over refusing to sell underwriting to a local Klan chapter.

This panel also offered public broadcasters advice from KWMU Station

◆ NEWSWATCH ◆

▶ NEWSWATCH, continued from page 2

TV bids, it did not revamp the formula and set a flat rate of 20 cents for FMs, as had been suggested. Most of the opening bids for radio suggested by the FCC are less than \$100,000.

The auction is intended to clear a backlog of contested TV and radio license applications and is open only to channels with competing license applications pending as of July 1, 1997.

Nearly 200 station construction permits will be put out for bid along with permits for low-power TV and translator stations. About 150 of those CPs are for radio stations. Formal applications to bid are due at the FCC by Aug. 20. The FCC plans to conduct a mock auction on Sept. 24 at its headquarters.

FCC's Ness Renominated

WASHINGTON The White House has nominated FCC Commissioner Susan Ness for a second term.

The Senate Commerce Committee

and the full Senate must confirm the appointment.

Ness was first named to the commission in 1994. If Congress should stall her confirmation until a new president is in office, Ness can remain at the commission until Congress approves the next administration's nominee. That could be a two-year process.

Unger New VOA Chief

WASHINGTON Sanford Unger is the 24th director of the Voice of America. He was sworn in by Associate U.S. Supreme Court Justice Antonin Scalia on July 20.

Prior to his appointment, Unger was Dean of the School of Communication at American University in Washington, D.C. Unger's career in broadcast and print journalism spans more than 25 years, and includes stints at National Public Radio and Newsweek magazine. At VOA, Unger will oversee more than 900 hours a week of broadcasts in English and 52 other languages.

WHAT COMES AFTER DIGITAL?

In the beginning, there were stone axes. Then came fire, the wheel, and the steam engine. Then came analog audio and then digital audio. What comes next?

Certainly the stone wheel must have looked to the caveman to be the greatest discovery that ever could be. And to the simple farmer of the 1800's, the steam engine was the most modern contrivance that his mind could imagine. But neither was a terminal technology. Both have been replaced as time marches on.

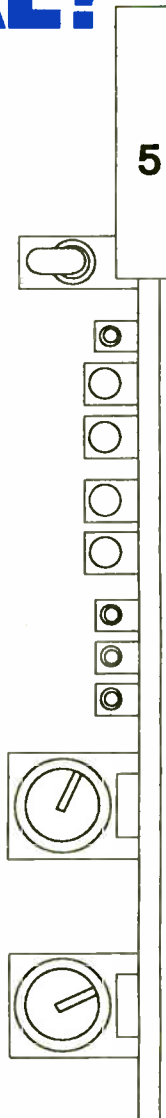
Digital audio is also not a terminal technology. It is simply where we are now.

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See You in Orlando — in Shorts

In this issue, **RW** takes a close look at the sessions and issues that make up The NAB Radio Show in Orlando.

I expect it to be a hot show. Literally.

I live in the Washington, D.C., area. Our summers generally are miserable, and 1999 has been right up there. July's heatwave and drought brought us day after day of haze, humidity and hot sauna days, the kind that make the blacktop melt and cause your shirt to stick to the small of your back two minutes after you walk out of the building.

So I'm braced for Florida.

I wonder how the venue and the timing of the show will affect turnout. On one hand, families are getting their kids ready for school by the first of September. Many people plan vacations



The latest codec from Musicam USA is the Prima LT.

around the Labor Day weekend. Business travel may not be convenient that week.

And Florida at this time of year really can be a bear. Take it from someone with family in the Orlando area.

On the other hand, what's not to like about a vacation resort area like this, aside from the heat? Radio folks can bring their spouses and kids, and combine business and pleasure. And I like the idea of having the fall show complete before the leaves start to turn at home.

One thing's for sure, I hope NAB is serious about its "business-casual" theme.

I remember walking around in the New Orleans sun in September at a fall convention, cursing myself for having packed three business suits — black, blue and dark green. What a drag.

So bring on those staff shirts and khakis.

★ ★ ★

By at least one measure, this show already is a success.

The NAB says the number of exhibitors this year is a record, with 215 exhibiting companies expected to occupy approximately 58,500 net square feet in the Orange County Convention Center.

That's up from 181 companies and 47,170 square feet at show in Seattle last year.

Among the exhibitors, NAB said, are a number of first-timers, including BBC World Service, Excl Communications, INTERVU/encoding.com, Sierra Automated Systems & Engineering Corp. and WebRadio.com.

On the exhibit floor, companies will be buzzing about this month's announcement that Harris Corp. will acquire Pacific Research & Engineering, thus combining two of the most famous names in the radio supply industry. You'll find more on that elsewhere in this issue.

Unfortunately, in my eyes, the number of booths is likely to be higher than the number of engineers in the crowd. Let's face it, radio doesn't send its engineers to this show. That's a shame, because many fine products will be on display, and managers should invest in that important resource.

What interesting products will pop up on the show floor? You can get an idea in the exhibitor listings starting on page 44.

We learn at press time that Musicam USA will introduce the Prima LT to its line of CDQ Prima digital audio codecs. It is aimed at buyers who have a tight budget.

Musicam USA said it designed the Prima LT with input from voice-over talents and professionals at small studios who were ready to move up to a stereo codec for specific applications. They didn't need some of the sophisticated features, such as multiple BRI ISDN bonding and level-actuated events, available in the existing CDQPrima Series.

Anything new in the portable audio arena is newsworthy.

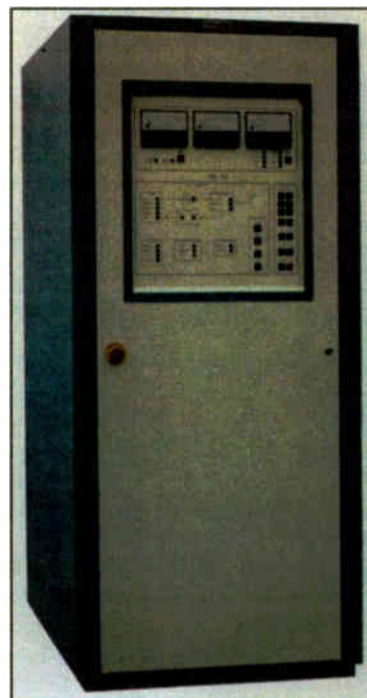
MiniDisc fans will want to visit the Marantz booth, to find out about availability of the new PMD650 professional portable MD recorder. Aeta has made a bold rollout with its updated Scoop Reporter II, a codec that combines POTS and ISDN and has uninterrupted inter-

nal battery backup, PC programmability and a three-channel mixer.

What else will catch your eye? You might visit BSI to learn about WaveStation 3.0 digital automation for Windows 95, 98 or NT; Armstrong Transmitter to find out about its FMX-300 frequency agile, solid-state 300 W exciter; Comrex to hear what they have to say about their new Envoy ISDN codec, which delivers 7.5 kHz or 15 kHz low delay, bi-directional mono audio on ISDN, and has a mixer built in.

Management Data Software Engineering is pursuing U.S. clients for its MD Broadcast Studio 3.0 radio management system.

Prophet Systems Innovations will update us on the status of its NexGen Digital Broadcast, a hard-drive based



The XL12 AM From Nautel

digital automation system that is scalable from one to 128 local stations, as first shown at the spring NAB convention.

Nautel Maine Inc. will have its XL12 AM solid-state transmitter, which the company says meets USA Digital Radio

From the Editor



Paul J. McLane

IBOC DAB compatibility criteria. Meanwhile, USADR and Lucent Digital Radio will tell us how they're doing with their DAB field tests.

★ ★ ★

An event well worth noting: Al Peterson has been writing in the pages of **RW** for 10 years.

Al recalls that his first column, in the July issue in 1989, described how WHEN(AM) in Syracuse let him go after only 11 months on the job.

"My first published words in **RW** were, 'Well, the unthinkable just happened,'" he told me. "The column began as 'From The Trenches' and evolved into 'The World According to ARP.'"

In these pages, Al has written product reviews, facility profiles and convention stories throughout the 1990s. He served as editor of the *Studio Sessions* section for four years, during which time I had the chance to work closely with Al. His articles and photo work have appeared in every other section of the publication as well.

I think Al's best work comes when he kicks back and lets his wonderful sense of humor shine through. He is hilarious, with a fresh eye for the funny side of our business. And he has never lost his sense of wonder at the thrill of opening a microphone or at meeting a legendary radio talent.

I'm delighted that Al continues to be an important part of **RW** as a technical adviser and columnist.

Thanks, Al, for all the hard work. Here's to 20 or 30 more.

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GUEST COMMENTARY

LPFM Without Interference

by Scott Fowler

The most critical technical issue for low-power radio is whether we need to protect existing stations on second- and third-adjacent channels. If these protections are maintained, few low-power stations will be possible in urban areas. If protections are dropped, will spectrum degradation result?

We should be concerned about spectrum integrity. We are degrading it as we add more stations. We should, however, admit that this is largely our fault in pursuit of our self-interest.

No reasonable person would suggest relaxing co-channel and first-adjacent protections to permit LPFM. Consider how many existing stations would be put out of business or powered down to comply with the existing rules for co-channel and first-adjacent channel protection.

It's easy to blame the FCC; they let this happen, right? However, the FCC is subject to our political will. We bend the rules in our favor and often justify our self-interest by arguing in the public interest.

Acceptable interference

I favor low-power service, but I do not pretend that there will be no interference. When you build an antenna and broadcast, somebody will receive interference. It does not matter what the contour studies show or what the field strength ratios are.

When I argue for low-power service, I am also arguing for more interference. How much interference is acceptable?

There is discussion about eliminating second- and third-adjacent protection because receivers have improved. Strong closely spaced signals still create intermodulation in most receivers. Imagine the problem if we spaced stations in all markets two channels apart instead of four?

There are two other significant argu-

ments for eliminating second- and third-adjacent channel protection. One is based on the method of signal strength ratios that often predicts minimal interference. However, the method ignores multipath and shadowing effects, and was intended to predict interference near the edge of service.

Waiver requests for contour overlap in unpopulated fringe areas are now requested within city grade contours. The FCC has shown tolerance for translator waivers because the translator must shut down if any actual interference is caused. However, that places the burden of enforcement on the existing service, which must file a petition to deny or later prove a problem.

Restrictive, not preclusive

The success of squeezing in these signals has led to a second argument that has been generalized to full-power stations. Plenty of stations are short-spaced on second- and third-adjacent channels. The argument is then made that a lack of interference complaints implies no interference.

Few people will report interference to the FCC. However, we eagerly reach the conclusion that serves our self-interest.

We can retain second- and third-adjacent protection and permit many low-power stations by changing the protection from preclusive to restrictive. Instead of a yes-or-no criterion, allow second- and third-adjacent stations, but place specific limits on their power. This is a win-win solution for broadcasters and low-power advocates.

The power limits on a low-power second- or third-adjacent channel station should be determined by three factors. They are the power of an affected adjacent channel station, the location of signal overlap and whether the overlap is second- or third-adjacent.

Many low-power FM translators oper-

ate with minimal impact within the same community as a second- or third-adjacent local station; most would conform to my proposed limitations. A second-adjacent 1,000 W station may be acceptable to a 100 kW station. If you are broadcasting with 500 W from a mountain, then a second-adjacent 100 W station downtown in your community may be too much.

What will happen to your listener's reception around a low-power station if your signal suffers multipath nulls every few feet or your signal is shadowed by a nearby hill? Good technical rules need to reflect reality and be valid at their limits.

The proposal

Our coverage areas are like Swiss cheese. We compensate with plenty of power and aggressive audio processing. Interference to second- and third-adjacent channel stations will result as you increase the power of the interfering station, decrease the power of the affected station, increase the number of other in-band signals and add receiver and propagation effects.

My proposal for second- and third-adjacent channel protection is shown in the table. Protection is calculated from the ERP of the existing second- or third-adjacent station and depends upon the type of contour overlap.

Stations need greater protection, not less, when the other adjacent station is in the same community. This is because receiver problems are more likely to occur where both signals are strong; the resultant interference may also affect the reception of other stations.

Here is an example of the method. A Class B station with 15 kW at 900 feet would limit a new second-adjacent station in the same community by 20 dB, to 150 W. I think the existing station can live with that. We have created space for a few microstations, or an LP100, or a full-power LP1000 if an antenna height of 500 feet is used.

Stations from a few watts to 100 kW exist. We must consider these ranges of power in our analysis. Stations with less power need more protection. Therefore, we should provide the same consideration for low-power services. They will be subject to more interference from existing stronger stations and from other low-power stations too.

Also consider your station's ability to monitor its air signal from your studio. Suppose an LP1000, second-adjacent to your station's frequency, is built on a nearby tower. Your studio is outside their blanketing contour, but you cannot monitor your signal properly. These situations could result if we allow second- and third-adjacent stations in the same community. I also propose protection for studio sites inside their city grade contour.

See LPFM, page 12 ▶

Proposed 2nd- and 3rd-Adjacent Channel Protection Requirements for LPFM Stations

For ...	if the following contour of an existing primary station is ...	and overlaps the following contour of the proposed LPFM ...	then, the ERP of the LPFM station must be less than the existing station's ERP by ...
2nd-adjacent channels	54 dBu (Class B)	74 dBu	10 dB ²
	57 dBu (Class B1)	77 dBu	10 dB ²
	60 dBu (other classes) ¹	80 dBu	10 dB ²
	70 dBu (all classes)	70 dBu	20 dB ²
3rd-adjacent channels	54 dBu (Class B)	94 dBu	0 dB ²
	57 dBu (Class B1)	97 dBu	0 dB ²
	60 dBu (other classes) ¹	100 dBu	0 dB ²
	70 dBu (all classes)	70 dBu	10 dB ²

¹ For limitations on LP100 and microstations, include existing LP100 stations. No protection required for FM translators, boosters or microradio stations.

² No limitation if no population or public right-of-way exists in predicted interference area based on a 1:10 ratio desired to undesired signal strength for 2nd-adjacent channels and 1:100 ratio for 3rd-adjacent channels.

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Noncoms Debate Sales Issues

► UNDERWRITING, continued from page 3
government regulation.

At a federal funding session — held prior to the list exchange controversy that threw the FY 2000 public broadcasting authorization bill into limbo (see story below) — underwriting sales representatives voiced their concerns about recent legislative efforts to rein in spot sales.

Congress has alternately encouraged and discouraged underwriting on public broadcasting “in an ongoing seesaw of loose and tight credit restrictions,” said Paul Damberg, development director at KUMD-FM, Duluth, Minn.

Reform bill

Many at the session worried aloud about a public broadcasting reform bill introduced but not voted on in the last session of Congress by Reps. Billy Tauzin (R-La.) and Edward Markey (D-Mass.). The measure would put the toughest restrictions yet on public radio credit length and language — already the biggest barriers between underwriting sales representatives and potential underwriters.

“It’s not a dead bill,” said panelist Ginny Berzon, station relations manager at the National Federation of Community Broadcasters, which claims about 150 members.

“Nothing is guaranteed,” said Madison Hodges, National Public Radio’s director of station services. “There’s an election

every two years.”

“Public radio should stop pushing the envelope on underwriting,” said Berzon, who joined other panelists in a call for self-regulation. A federally imposed standard, she said “would be much more Draconian than anything we could come up with.” But creating industry-wide rules for underwriting “will be extremely difficult,” said NPR’s Hodges. “The differences between stations (in current practices) is very large.”

Differences revolve around the various interpretations of FCC regulations governing underwriting on public radio and television.

Myriad rules restrict everything from the use of graphics and sound to the number of products an underwriter can mention in a credit. Most rules concern language. Legally, there is no selling, so credits cannot mention comparative pricing or make “calls to action” — using verbs that invite listeners to phone, buy or even visit an underwriter.

“The rules are deliberately vague,” said DEI President Doug Eichten. “Some stations are proud that they take a very conservative approach and will only use an underwriter’s name. But other, very liberal but legal stations push the edge on things like using slogans.

“Most stations are just confused and are trying to do the best job they can,

without the time or resources to continually consult FCC lawyers.”

That confusion is evident on an industry listserv sponsored by the Public Radio Development Office (*prado@listserv.syr.edu*). Numerous posts are swapped daily by underwriting sales representatives seeking advice about potential credit language.

In addition to arguments over FCC rules, “there are serious, complicated disagreements in public radio over appropriate credit length,” said John Sutton, who also directed the underwriter survey. “Everybody ties credit

length to their ability to sell spots. Some believe 10 seconds is better, but others think they can’t sell spots under 30 seconds.”

Despite problems and mixed messages, top fund-raisers attending the conference remained upbeat about underwriting. Some even see a benefit in the “Marketplace” series.

Cathy Ives, director of the DEI’s Center for Corporate Support, said, “When I heard about it, I wondered, ‘Why would we do this to ourselves?’ Now I think it’s actually a good thing because it educated people about underwriting.”

Gordon Bayliss, corporate sales manager at WGUC(FM) in Cincinnati and
See UNDERWRITING, page 7 ►

NEWS ANALYSIS

List-Swapping Angers Congress

by Leslie Peters

WASHINGTON As public radio marketers met in Portland to work on strategies for boosting revenue, confidence abounded about federal funding for public broadcasting. But the situation changed days later when House Telecom Subcommittee Chairman Rep. Billy Tauzin (R-La.), canceled a subcommittee vote on the bill.

He was reportedly angered by revelations that at least 28 public television stations had swapped donor mailing lists with organizations affiliated with either or both the Democratic and Republican parties.

Pubcasters scrambled to find an explanation, and are wondering how fallout from the list-swapping issue will affect their fall fundraisers, traditionally the heaviest fund-drives of the year.

At the Portland show, Capitol Hill industry representatives reported to conferees that hearings on the FY 2000 public broadcasting authorization bill had been “a love fest.” The bill authorizes CPB funding at \$475 million in fiscal year 2002.

But after the list-swapping was revealed, congressional critics renewed their call to either cut or eliminate funding for public broadcasting permanently, and Tauzin convened a hearing on the list exchange. Though not illegal, the list-swapping was widely perceived as inappropriate to an industry dependent on federal funding. About 15 percent of public broadcasting’s current \$2 billion budget comes from Congress.

Tauzin said he intended to redraft the FY 2000 authorization bill to prohibit the practice of list exchanges with political organizations.

The Corporation for Public Broadcasting provides federal funding to more than 380 radio stations and about 200 TV stations. About 70 are joint TV-radio licensees.

CPB Vice President for Radio Richard Madden said CPB did an initial survey of stations to see how prevalent the list-swapping was. “We’ve found it (list-swapping) predominantly in TV only and in joint TV-radio licensees, but our survey is not over.”

At the hearing, CPB President and Chief Executive Officer Robert Coonrod said of the 75 stations surveyed, “fewer than 30 appeared to have exchanged member lists with political entities of either or both parties.”

CPB, NPR, Public Broadcasting Service and America’s Public Television Stations said they do not condone the list-swapping practice.

Coonrod said the list-swapping was “stupid.”

The CPB inspector general who reports to the CPB board and Congress is reviewing the underwriting practices

See SWAP, page 7 ►



Robert Coonrod

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► **UNDERWRITING**, continued from page 6
 moderator of an industry discussion group called "Sales 99" on the PRADO listserv said that "underwriting anxiety" may be an issue manufactured by public broadcasting itself.

"There's more awareness than angst," he said. "Underwriting helps boost the quality of the programming. It's an integral part of what makes the service possible."

Ives agrees. "There's always a natural tension" at radio stations over sales — even in commercial radio." where she worked for 15 years.

According to Ives, public radio's outlook for increasing its underwriting revenue is "very bright." Because it attracts

an audience largely of managers and professionals, "public radio has been able to develop a new category of time buyers — professionals like doctors, lawyers, and accountants who aren't traditional advertisers on commercial radio." They are often listeners who become underwriters, she said.

While the industry's current goal is to double underwriting income over the next few years, "it will be a long time before we compete with commercial radio for sales. We're a blip on their screen," said Ives. "though, in some markets, public radio has been noticed."

One such market is Boston where news and information station WBUR-FM runs what is widely considered to be the most successful underwriting operation in public radio. In its fiscal year

ending June 30, WBUR-FM in Boston billed \$4.4 million in underwriting sales, an almost 40-percent jump over the previous year.

WBUR-FM Marketing Director Jay Clayton said that selling is tough in public radio.

"Apart from all the regulations, the trick is finding companies that aren't only buying ears. With our audience, we're selling quality over quantity."

But he also sees one advantage for public radio, with what he said is the rise of corporate interest in "cause-related marketing," a concept similar to "the halo effect."

"WBUR-FM offers companies more than just time to market products and services. There's an opportunity to be associated with something that is very special to listeners — public radio.

Traditional advertising just doesn't have that power," said Clayton.

Ives sees a sustainable growth curve for stations such as WBUR-FM, as long as everyone in the public radio community pulls together to work out issues such as self-regulation and "underwriting anxiety."

"Programming is always nervous that sales will drive the business, but sales reps understand that, in the long run, the client isn't served if the product changes," she said. "There are nuances to representing public broadcasting, so a certain amount of nervousness is appropriate — which is okay as long as it doesn't prevent us from doing our jobs."

■■■

Leslie Peters is a writer and researcher specializing in issues concerning the public radio audience.

► **SWAP**, continued from page 6

at all CPB-qualified stations and will report his findings to the House Telecom Subcommittee by Aug. 30.

In Boston, where the list exchange story originated with WGBH-TV, managers at WBUR-FM were moving swiftly to make sure the station's listeners understood that its policies have always prohibited list exchanges of any kind. According to Marketing Director Jay Clayton, all future fundraising letters will include a statement of that policy. He was also readying "informational spots" to hit the air "within a couple of days."



At DEI, Barbara Appleby, vice president and director of the Center for Member Support, said she doubts that the use of political lists is widespread in public radio.

"When development staffs select lists for acquisition mailings, they look for donors with a demographic profile similar to the station's donors. But the majority of public radio stations do not use direct mail acquisition to find new contributors and so would have no reason to exchange their donor list at all."

Appleby said that DEI plans to publish guidelines to help stations develop their donor list exchange or use policy. "We will recommend that they consider their policy from the donor's point of view," she said.

DEI President Doug Eichten said that the association was researching the issue by looking broadly at the non-profit field for ideas, but that he expected to get guidelines to DEI's 175 member stations shortly.

In the meantime, some public radio managers are bracing to see if an erosion in public trust will affect listener response to the system's heavy schedule of fall pledge drives.

Terry Clifford, co-chief executive officer of the Station Resource Group, a public radio policy think tank funded by 50 mostly major-market stations, said she thinks that "reaction from listeners will be mixed. Some people will probably be very angry, very vocal and extremely loud but they will be in the minority."

But, she said, "it's likely that this flap will have a long-term effect on public broadcasting's funding, though we hope that a more considered opinion will prevail."

■■■

Leslie Stimson contributed to this story.

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RADIO EMPLOYMENT

Getting a Job: Tips From the Pros

by Sharon Rae

Looking to step into the radio biz? Thinking about getting a new gig? Follow these excerpts from the experts and you may find yourself one up on the competition.

Clay Freinwald, senior facilities engineer, Entercom, Seattle, said the No. 1 thing he looks for in a prospective employee is related experience.

"We are a broadcast company with eight radio stations and 250 employees," he said. "We don't hire anybody that can be a jack of all trades because that's unrealistic."

Gesundheit

Freinwald said he also looks for someone with formalized training.

"The applicant should have at least two years of formalized electronic training if they are going to be working on equipment," he said. "People today don't know how things work. They know how to plug the *gazatas* into the *gazintas*, but when it comes to how the device actually works, they don't know. ...

"I'm looking for someone with troubleshooting techniques and who has the ability to repair equipment. Someone who can diagnose down to the component level."

A good work ethic is another must. "I want someone I don't have to wind up every morning and clean up after every night," said Freinwald, who usually checks

with references and previous employers.

And finally, Freinwald looks for an employee whose outside interests match the position applied for.

"Broadcasting is a 24-7 business," he said. "I'm looking for someone who has an interest in what they are doing beyond the 8 to 5."



Clay Freinwald

"Say you have two people applying for a job as an auto mechanic," he said. "Joe has 10 years experience working on cars at a previous dealership. His hobbies include rock collecting and ballet. Then you have Fred, who enjoys racing and tinkering on old cars. Who is more likely to be an enthusiastic employee?"

RW columnist Mark Lapidus is the

marketing director for Washington, D.C., area stations WWDC-FM, WTEM(AM) and WGAY(AM) — all Chancellor Media stations. Lapidus hires for promotion and assistant promotion director positions.

He, like Freinwald, looks for certain experience in a job candidate, and, according to Lapidus, that experience should be concisely explained in the applicant's resume.

"I also carefully look at the way the cover letter is written and how much attention is paid to detail," said Lapidus. "It's easy to determine if the applicant has spent any time learning about your business or if you're receiving just a form letter, which is a tremendous turn-off for me."

Lapidus said he looks for specifics as to how the applicant can benefit his company.

"I also check references," he said. "I look to see if there is anyone I know, or anyone I know a friend of."

According to Lapidus, it is a mistake to put "references upon request" or "more detail upon request."

"I don't have time to do that," said Lapidus. "If they are truly interested in the position, they should include as much information as they can in the first introductory package."

Follow-up efforts are an important tactic to complete the interview process.

"I always enjoy hearing from candidates on the telephone," said Lapidus. "I may not have long conversations with them and I may not even return all the calls ... but just the fact that they called is an indication of their aggressiveness. A letter or e-mail is very good as well."

Lapidus also looks for an inquisitive applicant. "The interviewee should come prepared to not only answer questions, but also to ask them," he said. "A lack of inquisitiveness indicates a problem."

On-air

For those interested in on-air positions, we talked to Dave Downing, who serves as station manager for student-run WLNZ(FM), and as an instructor at Lansing Community College in Lansing, Mich.

"We spend a lot of time talking about the cassette tape for audition," he said. "Dos and Don'ts, but mostly the don'ts."

One of the big no-nos, according to Downing, is a long aircheck. "I tell the students to keep their tapes short and concise, with the best material within the first 20-30 seconds," he said.

Downing stresses hands-on experience with his students.

"We're real big on internships," he said. Students are required to do an internship before they get their degree. We're of the opinion you learn best by doing. There's no replacement for being

out in the field."

Keep in mind program directors don't only want the "T" part of "T&R." Downing said an internship helps the stu-



Mark Lapidus

dent in another way as well: "Then they have some other call letters on their resume to help them market themselves."

Downing tells his students to keep their radio resume at one page.

"When you are applying for a job, your résumé is in a stack with dozens of others," he said "It should be easy to read and in outline form. Save the specifics and narration for the cover letter."

Résumé resource

The Society of Broadcast Engineers can help job seekers with its Résumé Service. John Poray, SBE executive director, said this new service is available to members. "We felt that we could do



Former LCC student Mike Couchman works at the controls of WLNZ(FM).

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World Radio History

Harris Corp. to Buy PR&E

by Leslie Stimson

Harris Corp. will acquire Pacific Research & Engineering Corp., bringing together two of the most familiar names in the radio broadcast supply industry.

The companies announced an agreement in August under which Harris made a cash tender offer that values PR&E at about \$9.5 million, including the assumption of debt.

Founded in 1969, PR&E has suffered losses since it went public in 1996.

Although PR&E did have a profitable first quarter, reporting \$4.2 million in sales and earnings of four cents a share, news of earlier financial problems "shed enough concern that that the large orders just moved out," said PR&E President and Chief Operating Officer Don Naab.

On the same day of the announcement, PR&E reported a net loss of \$654,000, or a loss of 28 cents per share, for the second quarter of this year. That compares to a net loss of \$406,000, or a loss of 18 cents per share for the second quarter of 1998.

For the first six months of 1999, PR&E reported a net loss of \$564,000, or a loss of 24 cents per share, compared to a net loss of \$788,000, or a loss of 34 cents per share for the first six months of 1998.

Seeking suitors

In March, PR&E reported a net loss of \$4 million for 1998 and later restated financial results from earlier years, to show losses (RW, April 28). As a result,

it fell below the net worth required by its bank and was in violation of its bank loan covenants for its line of credit and term loan agreement. At the same time, PR&E stock fell below the listing guidelines for the American Stock Exchange.

At that point, PR&E officials said, they began seeking suitors for potential investors or mergers. When asked about this in March by RW, PR&E declined comment. Recently, Naab said that PR&E talked to several companies. He did not comment on whether Harris made the only offer.

Naab said the boards of directors of both Harris and PR&E felt this deal suited where the market needed to go and that the cultures and strategies of the two firms were similar.

"When I joined PR&E, Jack (Williams) and I put a vision together. It's unfortunate that we had the restatement occur earlier this year. ... Although we didn't plan to be a part of Harris, our ultimate 'what can we do together' is almost ... what Jack and I agreed to put together ourselves," he said.

"In my mind, it accelerated it by three years."

Harris will cash out PR&E shareholders at \$2.35 per share. The tender offer was expected to begin on or about Aug. 9 and close in September.

Naab said, "We believe we are serving the shareholders appropriately by supporting Harris' offer for our shares at that price."

PR&E stock was still trading under the

symbol PXE after the announcements. On Aug. 4, it closed at \$1.19. After the deal closes and PR&E stockholders are paid off, PR&E stock will cease to exist.

Harris assumes PR&E debt under the agreement. PR&E reported total current assets at about \$3.4 million and liabilities of more than \$6 million as of June 30. Liabilities included about \$2.2 million on PR&E's line of credit and \$542,000 on its term bank loan as of June 30.

'Fabulous' consoles

Jim Woods, vice president, radio systems business unit, Harris Broadcast Communications Division, said there were several reasons his company wanted to purchase PR&E, including its "fabulous" console product line.

"We positioned our business some time ago to move beyond simply being a transmitter company, to expand into the systems arena, both in transmission and the studio, and the program transport, or STL systems," Woods said.

"Now, we have the piece that is the centerpiece of a studio system, like we have the piece that is the centerpiece of the transmission system and the components for an STL system."

"PR&E has a legacy of being a preeminent systems integration and design organization in the U.S. that complements the activity we started with the acquisition of Northeast Broadcast Labs ... and started expanding our audio systems activities."

In addition to the purchase two years ago of NBL, Harris has since acquired Intraplex Inc., which makes program transport products.

Harris plans to retain the PR&E brand name and to continue to operate the Carlsbad facility as a console manufacturing center. For now, and after the deal closes, PR&E customers who need service should continue to call PR&E.

Woods said plans for integrating the two companies were just beginning and he could not comment on how or what functions would be integrated or which employees, if any, will be affected.

He also could not comment on the future role of Naab or Williams. He said much of these details would be spelled out when the tender offer was complete and Harris would release that information at that time.

When asked how Harris would address PR&E's lagging sales, Woods said Harris had been challenged with having enough resources to address market opportunities. The PR&E acquisition, he said, would help give Harris sufficient resources to handle large studio projects.

"We think reversing and pumping up the sales trend is very achievable," said Woods.

Asked if the deal would affect Harris' relationship with other suppliers, Woods said, "We obviously have become a console manufacturer," which he said could change the mix of products Harris sells.

For example, Harris distributes all of the Wheatstone product lines, including Audioarts Engineering and Auditorics consoles. Woods said he imagined the deal with PR&E could change Harris' relationship with Wheatstone. Wheatstone Owner Gary Snow was on vacation and unavailable for comment.

The Harris/PR&E deal generated great attention among industry suppliers when the news broke, thanks to the prominence of the companies and their long history.

Tim Bealor, RF product manager for Broadcast Electronics, said the acquisition was an indication of the further consolidation of the industry.

"I don't think any side of the business is immune to the changes, whether that be the manufacturing side, service side or station side. That's true for the foreseeable future as long as there's good businesses left to buy and people with assets to purchase them."

An executive of another competing supplier said PR&E's installation business would be a good fit for Harris.

PR&E employs approximately 100 people at its Carlsbad facility. Founded in 1969 by Jack Williams, the company manufactures broadcast studio products and provides turnkey studio design/integration services to the worldwide broadcasting industry. Products include on-air and production mixing consoles, studio cabinetry and integrated systems technologies. PR&E clients include NBC, ABC, CBS, Jacor Communications, AMFM Inc. (the former Chancellor Media), Emmis Broadcasting and Cox Communications.

Harris is an international communications equipment company with roots dating to 1895 and based in Melbourne, Fla. Gates Radio, now Harris Broadcasting Communications Division, was acquired by Harris in 1957. It is headquartered in a new building in the Cincinnati area, to be dedicated in September.

Radio products include digital solid-state AM and FM transmitters, radio antenna systems, digital studio-to-transmitter links, studio equipment, turnkey studio and transmission facilities.

BUSINESS DIGEST

CCA Bankruptcy Deadline Set

FAIRBURN, Ga. A bankruptcy court in Atlanta will give CCA Electronics Inc. until Oct. 31 to file a Chapter 11 reorganization plan or face the possibility of being ordered into Chapter 7 to be liquidated.

U.S. Department of Justice Attorney Leroy Culton said he and lawyers representing CCA both agreed that the ruling should give CCA enough time to file a plan.

"CCA remains in operation and the case is proceeding," he said.

Creditors' claims

Culton asked the court in May to either dismiss CCA from its Chapter 11 bankruptcy claim or divert the transmitter manufacturer into Chapter 7 to be liquidated to satisfy creditors' claims (RW, June 9).

Culton said at the time that he thought the case was moving along too slowly.

CCA's Chapter 11 filing in October 1998 protected the company from 155 unsecured creditors. Radio World is one of the unsecured creditors.

In court papers filed last October, the company listed outstanding liabilities of nearly \$2.5 million. Assets were estimated at just over \$1.1 million.

CCA Owner Ron Baker said previously that the company would continue to service customers and honor warranties throughout the bankruptcy proceedings.

— Randy J. Stine

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Common Testing to be Discussed

► DAB, continued from page 1

make it difficult to be successful. From a transmitter manufacturer standpoint, the systems are similar as far as transmitter requirements.

"As far as we can tell, if we can make our system work with one, they'll work with others. But as far as getting consumers to buy radios, there has to be a single system."

What is not clear is how to get to a single standard. All the proponents are testing in different labs and on different stations. If they all submit test data to the NRSC by a previously agreed target date of Dec. 15, the NRSC will evaluate that data and compare each system to analog (RW, Aug. 4). The NRSC believes that step is necessary to determine whether to continue to IBOC development.

What happens next is murky. At NAB99, Harris Corp. called for a "grand alliance" to achieve a single standard, following the model that led to digital television. All of the proponents said they agreed in theory, if it makes business sense. But each of the proponents is working separately with equipment manufacturers to develop IBOC-compatible equipment.

Common testing

The NRSC DAB Subcommittee is set to discuss common testing, in which each system is tested in the same lab and on the same stations, at its Aug. 31 meeting. Several participants in the IBOC devel-

opment process believe common testing is the best way to move towards a single standard. Theoretically, if all proponents agreed to common testing and the planning for that began now, by the time the committee has compared each system to analog, the preparations for common testing could be ready by the end of the first quarter of next year.

But the proponents would have to agree and be prepared to pay for bulk of the costs.

In the meantime, USA Digital Radio and Lucent Digital Radio have announced several agreements with equipment manufacturers to test and, in some cases to market. IBOC-compatible transmission equipment. USADR also has a deal with Kenwood Corp. to develop receivers.

USADR is working with Harris Corp., BE, Nautel, Energy-Onix and Continental Electronics Corp. to develop transmission equipment.

LDR recently announced deals with Armstrong Transmitter Corp. and BE to test LDR's system.

Armstrong Sales and Marketing Manager Ernie Belanger said until there is a single IBOC standard, any cost figures that have been stated so far about how much stations would need to pay to convert to digital are inaccurate.

What would stations need to be IBOC compatible? Carpenter said most FM stations would need an IBOC exciter, a lin-

ear amplifier to amplify the waveform, and a combiner to mix the analog and IBOC FM signal. Some stations also may need a second antenna.

He said AM station managers are worried about the antenna systems, whether they would be sufficiently broadband to pass the IBOC signal without a lot of upgrades.

Transmitters

USADR Vice President Jeff Jury said that, in some cases, transmitter manufacturers may want to incorporate IBOC exciter technology into their transmitters. In others, he said, they may want to buy exciters as separate units. He said USADR will work with manufacturers to decide which business model works for them.

Research work continues. Xetron is working with USADR on the development of its AM system and exciter technology.

All three proponents are working on development of semi-conductor chips, a key component for exciters and receivers.

USADR and Texas Instruments announced a commercialization agreement under which TI will use its hardware to host USADR IBOC software on a digital signal processor for incorporation into a receiver. TI is beginning with the TMS320C6000 family of logic chips. These DSPs are the main computing engine in wireless phones, modems and other devices.

TI New Business Development Manager Gene Frantz said TI can control factors to reduce the cost of the chip such as performance and power dissipation. Too much power consumption by a chip can drain a radio's batteries faster than normal. TI works with several receiver manufacturers and is prepared to sell either a complete chip or its components.

LDR is developing an application-specific integrated circuit that can be licensed to semiconductor manufacturers to be turned into chips and then purchased by receiver manufacturers. LDR could also license the ASIC design to



Promotional Image From Texas Instruments

receiver manufacturers who would want to build the chips themselves, said LDR President Suren Pai.

Although Lucent's Microelectronics Division is "clearly one source" to manufacture the chips, Pai said LDR "is not getting into exclusive relationships with anybody."

DRE has an ongoing relationship with a chip manufacturer, said Dwight Taylor, an investor and executive of DRE.

In a related announcement, USADR has added two more board members: Gregory Simon and Fred Wilson. Simon was recently chief domestic policy advisor to Vice President Al Gore. Wilson is a venture capitalist focused on providing equity financing to high technology companies. Although a private company, USADR plans to go public in the future. The additions bring USADR's board to nine total members.

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An LPFM Proposal

► LOW POWER, continued from page 5

These protections can be applied to AM. There are more than 700 low-power radio stations on AM; they are Traveler's Information Service (TIS) stations. However, you have to be a government entity to own one.

Allow LPAM

I ask the FCC to reconsider its arguments against low power on AM. I strongly advocate an AM service and believe FM spectrum will be insufficient. Some advocates of low-power FM argue that AM antennas are impractical. I observe TIS stations along roadways that use antennas mounted on utility poles. They cover a couple of miles with 10 W.

If you want to serve the local community rather than your self-interest, then why not on AM? The expanded

AM band may be the best place of all. Many TIS stations occupy this band because small chunks of spectrum are easily found there. Sufficient power, perhaps up to 100 W daytime, would permit low-power stations to serve the public interest on AM too.

I welcome comments and questions on this subject. If you have e-mail, I can send you my comments on MM 99-25 filed with the FCC (Word 6.0 format, 63 pages).

■ ■ ■
Scott Fowler was technical director at WXPN(FM) at the University of Pennsylvania in Philadelphia for eight years; he is now a free-lance engineer and consultant who specializes in FCC engineering studies. Reach him at (610) 562-4761 or by e-mail at fowler@enter.net

RW welcomes other points of view.

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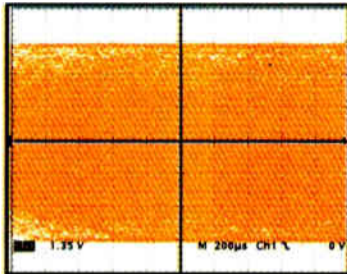
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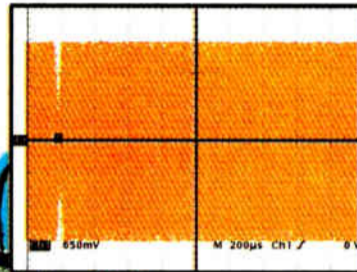
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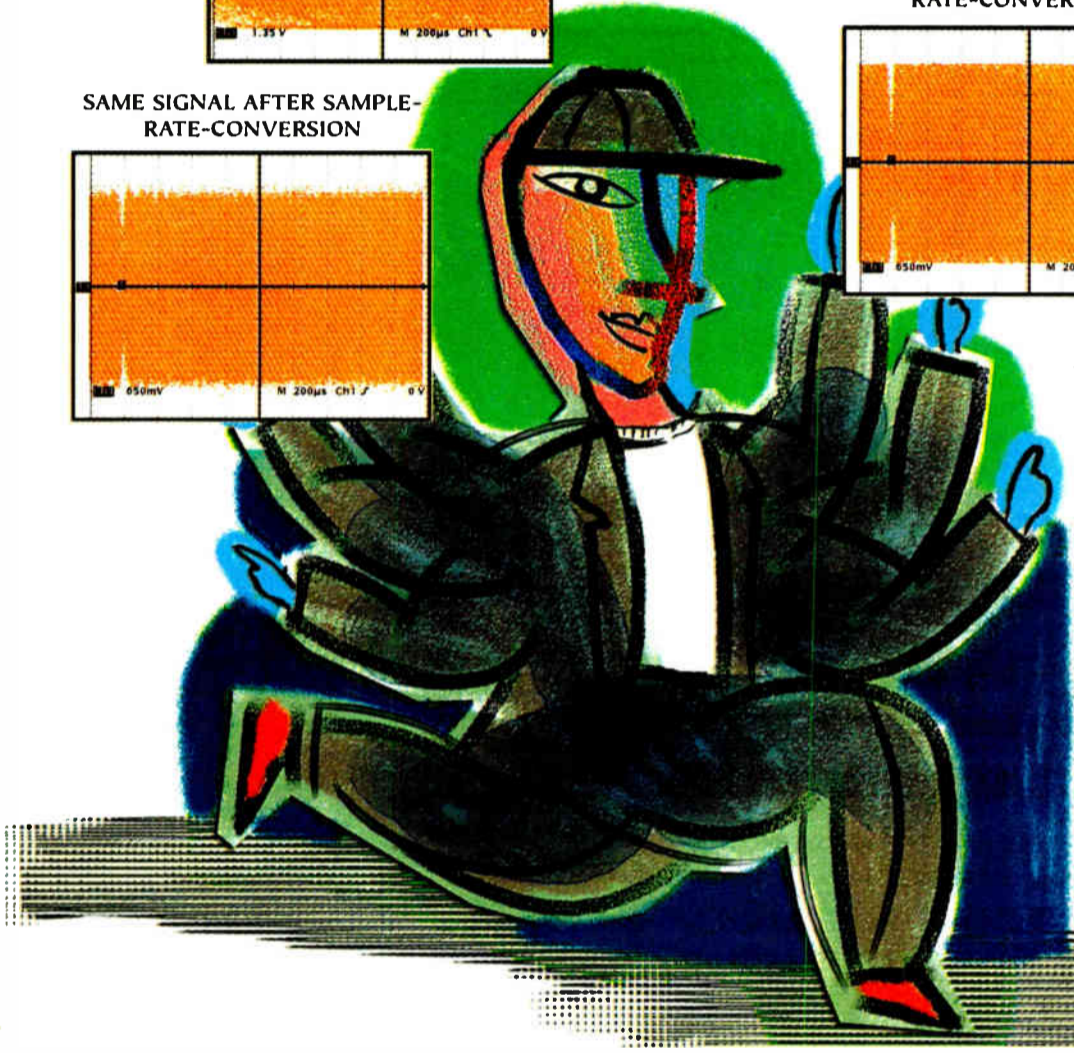
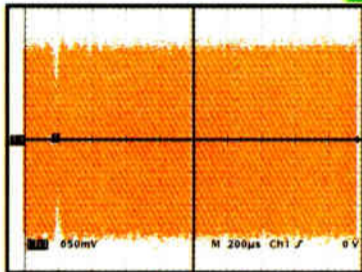
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Circle (14) On Reader Service Card

World Radio History

Smith on Integration

► SMITH, continued from page 1

its \$6.5 billion purchase of Jacor Communications Inc.

His employer now is among the biggest of the big, with estimated 1998 annual revenue of \$1.21 billion, according to BIA Research. Only two radio groups take in more money; and only AMFM Inc. — the former Chancellor Media Corp. — rivals the total number of stations.

Smith, 50, lives on an 85-acre cattle ranch outside Tulsa. He began his career as a disc jockey in Cape Girardeau, Mo., and has worked as a general manager, building a station in Jackson, Mo.

He spoke to *RW* News Editor/Washington Bureau Chief Leslie Stimson about equipment and facility plans for Clear Channel's station family, and the technical challenges posed by that consolidation.

RW: The merger between Clear Channel and Jacor has closed, and all former Jacor stations are now Clear Channel stations. The company has made some decisions regarding its engineering staff. What is your role?

Smith: As senior vice president, operations, I oversee all of the consolidation and construction projects, including capital decisions, for our 476 U.S. stations and 240 radio international stations.

Al Kenyon, formerly Jacor's vice president, engineering, has been promoted to vice president/technology. He will coordinate

the day-to-day needs of local engineers working through this division. Al and I will coordinate most of the projects.

Al will also serve as that all-important bridge between the radio division and the information technology division as they facilitate new systems.

RW: Will you be making any engineering staff changes?

Smith: No changes, we will be keeping everybody.

RW: What are your biggest technical challenges right now?

Smith: When you stop to think that in February of 1996, we had 34 radio stations, and here we are in August 1999 and we have 476 radio stations in the U.S., plus an equity interest in 240 radio stations in other countries, the challenges mount quickly.

One challenge is that companies that we have acquired generally have not been generous with capital improvements in the months prior to the sale. A newly acquired group — Jacor being the exception — always needs to be brought up to speed technically before we can compete in the same arena as our other stations.

RW: Upgrading the equipment?

Smith: Yes, we start with the transmitter and antenna and work our way forward. We update to be sure that we are as loud on our frequency as the rules allow, since

in our opinion you can't begin to compete until you have the maximum sound possible.

Many goals

RW: What condition are the Jacor stations in, technically?

Smith: I can honestly say that stations that had been in the Jacor group for longer than three months had already had those technical facility upgrades.

Jacor was operating with the same standards as us, so when our two companies combined, a lot of that work had already been done.

RW: What are your immediate technical goals for all of the stations?

Smith: Gee, where do I start?

There are multiple goals. Connectivity is paramount. We are constantly looking for ways to connect our radio stations via either hub and spoke technology or at the minimum transfer of files to share morning show bits, commercials, music, promos, newscasts and such.



Jim Smith in 1972

It's hard to define goals one, two, three and four because they are all so critical to our success.

RW: What kind of system do you use now for connectivity?

Smith: We have several systems in use, including Prophet Systems, AudioVault, Computer Concepts, Media Touch and Scott Systems.

Our challenge, as we move forward, is figuring out how to make all of these systems share information and files to utilize the synergistic possibilities in all of our stations.

RW: What traffic and billing systems do you use?

Smith: We have many different vendors, including CBSI, Marketron, Columbine, etc.

Because most of our accounting is done at the corporate level, we are able to use more billing and traffic vendors at the station level, but we are looking to develop a single system of our own at some point in the future.

Currently our deposits, accounts receivable and statements are done at the station level, but everything else is done on the corporate level. The accounts payable invoices are signed at the station level and then go to corporate to be paid.

Since we don't have to maintain a major general ledger system at the radio station level, we have the flexibility of being able to currently let managers use

the billing and traffic vendors that they want to use.

RW: Can you elaborate on your biggest projects now underway?

Smith: We are adding significantly to our Richmond radio facility to consolidate our six stations, now in three locations, plus the Virginia News Network. That's a project where we are taking the existing facility and doubling it, almost tripling it with an add-on and then remodeling the original building at the same time.

We've also just launched a project in Miami which will put seven stations under one roof with Eller Media, our nationwide billboard company.

RW: Any other build-outs on the books?

Smith: Sure. We have our Ft. Myers project, which is a consolidation of all of our stations there. We are enlarging the Jacor Tampa facility to bring the Clear Channel stations into that facility. That project is online and the end result is going to be quite a significant facility.

We're just finishing a new facility in Denver and getting ready to build facilities in Phoenix and San Diego.

RW: Can you estimate how many projects you will have in the next 12 months?

Smith: A good guess would be in the ballpark of 25.

RW: What would be the biggest one or two?

Smith: Certainly San Diego is going to be significant, but Miami and Phoenix are going to be just as big.

RW: How many stations are going to be in the combined facility in San Diego?

Smith: Eleven stations in San Diego and seven in Miami. Miami will also include Clear Channel Marketing.

CCM is a separate branch of our company that specializes in non-traditional revenue, marketing and promotion. They are based in Miami currently and will be a part of our new facilities.

RW: Have you chosen the digital editing equipment you will install for the San Diego project?

Smith: We have not made those decisions yet. We are in the space planning mode now followed by our construction drawings stage. Then Al and I will discuss the equipment needs and make those decisions.

I wouldn't anticipate that happening for another 60 days or so.

Day-to-day

RW: How do you spend your day, and how is that likely to change now that you are going to be in charge of so many more stations?

Smith: My day hasn't changed that much, other than it has just become much longer.

I have a staff of four here in the Tulsa Corporate Office. Add in the former Jacor corporate technical people in Cincinnati, and our division doubles. The Clear Channel technical department and asset management department have been in Tulsa for the past three years.

Our now-combined staff's first duty is to field emergency calls. Additionally we handle all of the capital expenditures, emergency capital — if someone takes a lightning strike, loses a generator or has a transmitter die, we're the first line of defense

See SMITH, page 16 ►

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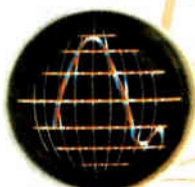
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► SMITH, continued from page 14 — and we handle all equipment budgets, invoices and purchase authorizations.

In addition, we coordinate projects with a number of architects whom we employ around the country. We work closely with the space planners, buy all project equipment during the year including transmitters, consoles, digital editors, etc.

RW: How many engineers are under you now? Or how many per station, on the average?

Smith: There is no way to answer that one. I have no idea how many engineers are in our company. It depends on the size of the facility. We have some facili-

ties where we have as many as five engineers. We have others that will have two or three engineers.

It varies greatly by need. Keep in mind that I generally just deal with the station cluster engineer who is responsible for a particular market.

We'll have a market engineering manager who is the corporate contact, and that's who Al and I will be in contact with. We're never sure if that market engineering manager has two, three, four, or five engineers working with him since that's determined by the local budget, which is in turn controlled by the local general manager. He or she determines how many engineers will

satisfy that facilities' needs.

RW: How are equipment purchase decisions handled? Do they go through you?

Smith: Yes, they go through our division. We have a "group" of brands that we prefer to buy from, because I know the products in that group have a history of dependability and parts availability.

When a local engineer tells me he would like to have transmitter brand A, or B, or C, and it falls within that group of transmitter manufacturers, then I am comfortable with the local engineer making the call.

Conversely, if the local engineer decides he wants a product that we do not

have a history with, like a new company, new product or a "bargain" from a company that is going out of business or has just gone out of business, then I generally overrule those decisions.

RW: What transmitter companies do you usually use?

Smith: BE, Harris, Nautel and Continental. Those four represent most of our transmitter purchases over the years.

RW: On the digital editing side, what do you usually use?

Smith: We have everything from the Audicy to ProTools to SAW. It seems that every production person has one system that is very comfortable to that person.

Once again, as long as it falls within the parameters of a known system, I let that decision be influenced locally. But there is no equipment purchased in this company that someone on my staff hasn't signed off on.

'Digital hasn't been the solve-all of audio problems, and in some cases, has created another set of problems.'

RW: Give me a ballpark of your annual engineering budget.

Smith: It would be difficult to really give you a number because it has changed so drastically so often. We have been averaging buying almost 10 stations a month, and that's made budgets a fast-moving target.

For example, this year, in capital purchases, just the everyday items that stations request during capital budgets — this would include replacement consoles, hard-drives, transmitters, etc. — we're looking in the neighborhood of \$5 million to \$7 million, and that's double over six months ago.

Project budgets, where we include all the equipment used in build-outs and major transmitter projects, new towers and consolidation of FM stations on one antenna, are going to be the \$20 million to \$25 million range. At some point the zeros become a bit overwhelming.

RW: Those are ballparks for one year. It doesn't sound like you have any blanket buying deals.

Smith: No, I have always found it most advantageous for our company to keep suppliers in a constant bid posture.

My first responsibility is to our shareholders and tight control on capital outlay is certainly a contributor to our success as a company. I haven't been able to quantify "blanket deals," as I have found no better pricing in companies we have purchased than what we have been able to achieve.

RW: What are Clear Channel's Internet plans?

Smith: Clear Channel has recently formed a separate Internet division, Clear Channel Internet Group, that Jennie Sue Rhoades (former Clear Channel GM in

See SMITH, page 18 ►

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Clear Channel Station Integration

► SMITH, continued from page 16

Orlando) is in charge of. She will coordinate Internet sales for every station in our company.

I anticipate that she will be our key driver as we proceed with our audio streaming plans. Jenny Sue reports that the majority of our stations already have Web sites and those who don't will have them up and running in short order. It's a very exciting project.

RW: Clear Channel has invested in in-band, on-channel digital audio broadcasting technology with an investment in USA Digital Radio. The company has also invested in XM Satellite Radio. Do you think IBOC is really going to happen?

Smith: Yes, because it makes the most sense for the consumer, and history has proven that the consumer is ultimately going to drive the decisions in Washington.

If a radio user can continue to receive an analog system, or if they choose, buy a more expensive receiver and receive digital, then that is going to make the most sense for the consumer.

Ultimately in politics and broadcasting, what eventually happens is what the consumer demanded. Digital radio is the future but IBOC makes that technology a "win-win" for all.

RW: On the IBOC development, will you be testing USADR's system on any Clear

Channel stations?

Smith: We're discussing that now. I would certainly be willing to test it on some of our stations.

RW: What effect do you think satellite DARS will have on IBOC development?

Smith: It's unknown at this time. But we as a company need to be a part of any new, potentially viable technology

special receivers.

(DAB) could be transitional; it could be permanent. I believe there will be people who will listen to analog radio and think it's just fine even when digital has been around for 50 years.

There are just some consumers who aren't going to see the benefit of digital transmission. If we can continue to serve those people and at the same time

'We have audio chains where the encode/decode process is repeated ... and during every encode/decode more data is lost. We end up with a very sterile audio sound.'

because we have a responsibility to our stockholders to be on the cutting edge of where the industry is going.

We have, on several occasions, taken steps to avoid functional obsolescence. XM Radio is a good example and we have always been a proponent of IBOC from the beginning.

We've watched Europe go to the Eureka system, and obviously we know that that system works, but it requires

introduce digital technology (IBOC), then that, in my opinion, is the best of both worlds.

RW: When you say Clear Channel supported IBOC all those years, you don't mean with money but rather, you supported the idea...

Smith: Absolutely. But we're supporting it with money now. It's a significant investment for us.

RW: What has to happen other than developing a system, for IBOC to become a reality?

Smith: There's some discussion about whether the FCC should adopt a platform. We're wasting our time if they don't. We should have learned that with AM stereo.

I believe another issue is that the industry should spearhead a standardization of some format of digital compression. To have one vendor using one kind of technology and another company using another is difficult.

We have audio chains where the encode/decode process is repeated multiple times and during every encode/decode more data is lost. We then end up with a very sterile audio sound at the transmitter end.

For example, if you have music on hard drive, through an analog console, then on through a processor and an STL, by the time it gets to the transmitter site, which is still analog, it's been encoded and decoded four or five times. Each time, you've lost something.

I've had managers who have complained that "We've got the best antenna and transmitter that money can buy, yet we sound thin on the air." I always advise them to evaluate the audio chain and they will usually find a "stack" of equipment that has encoded or decoded through several steps. That "thinness" comes from incompatibility, which is generally the problem.

Now, enter the vendors. They all feel that their technology is the best, but it's not still compatible with something else you may be using in the audio chain.

See SMITH, page 19 ►

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► SMITH, continued from page 18

RW: It's not a new debate, but it doesn't sound as if anybody's focusing on that.

Smith: I've attempted to have some impact on this issue and visited with vendors about this at the last NAB convention in Vegas. There was discussion among suppliers with the NAB about possibly adopting an NAB standard, much like they did with cart alignments way back when. Those discussions are on-going.

It's a real frustration when we're trying to maintain the best on-air sound, to have that kind of incompatibility with compression ratios, algorithms and the accompanying loss of digital information along the route.

RW: Can the listener tell if the sound is thin?

Smith: That's a great question. I'm not so sure that a listener ever says, "Gee, I think that sounds thin." But I am sure that every listener has the ability to say "This station sounds better than that station." They might not even know why they prefer it, but they know they do.

One of the oddities of digital is that everyone was so excited to get away from tubes because of distortion. Well, in my opinion distortion was never a bad thing. The same distortion that creates those terrible sounds also creates those nice, warm fuzzy tones like an old guitar tube amp.

I find it particularly amusing that we now have equipment that goes into line with our digital equipment that recreates tube distortion to create a more "warm" (sound). Digital hasn't been the solve-all of audio problems, and in some cases, has created another unique set of problems.

RW: What do you think is the most important technology challenge facing radio right now? Is it making money on the Internet, going digital or something else?

Smith: It's all of the above.

I made a comment at a convention one time that got quite a laugh. I said that being in the business today was akin to being a blind dog in a meat factory. You just don't know where to go next, because it's all so incredibly important, exciting and has such potential.

There is the digital transmission arena, how radio interacts with the Internet, how to utilize the Internet and connectivity of the radio stations, how morning shows use the Internet to become closer to their listeners. Just pick an area and it's just so exhilarating and exciting to pursue it.

RW: Are you worried about the Y2K problem?

Smith: I might be the only guy in America that is confident that the world is going to continue to revolve on Jan. 1.

RW: Are you asking your station engineers to work that night?

Smith: We're asking them to be available either on a beeper, cell phone in some other way.

For the past year, we've upgraded audio servers that were not Y2 compliant. We have an information technology department that has gone through our entire business sector. We have looked at every server and audio source that we have on-site. We have done the tests and confirmed that today we are 75-percent Y2K compliant on over 75 percent of our systems and we are on target to be 100-percent compliant by Sept. 30.

RW: Has pay kept up with their increased responsibilities as stations consolidate their facilities?

Smith: That's a tough question

because there are necessary increased responsibilities.

The initial flurry of work is generally in the consolidation of the facility. But once you have those facilities consolidated, you're working with all of your studio sites in one location. In some cases that's a decrease of work output. We generally have an engineer who just goes to the transmitter sites for preventive maintenance and such.

Being a broadcast engineer today is still a great job. We're in a transition now from multi-sites to consolidated sites, and that transition is sometimes chaotic and confusing and requires a lot of effort.

If you look past the actual consolidation process, we will have a group of stations in one facility with similar if not identical equipment. That should make a very satisfying work environment.

RW: How has consolidation affected your job, given that you went from 34 stations to 476?

Smith: It's like working in a room full of snakes. Your focus changes from worrying about all of the snakes to only worrying about the snakes that are about to bite your ankles. The ones by the door are not a concern.

RW: Is that a way of saying you're mainly worried about keeping your stations on the air today?

Smith: Yes, plus staying in touch with the technology, making sure that you're going in the right direction in connectivity and maintaining a responsibility to the stockholders for the money that you spend.

For years, I was deeply involved in the total radio business. Now, I'm more an accountant and administrator.

RW: We hear that a lot from the heads of radio engineering groups.

Smith: It's probably the largest single change. Keep in mind that I started handling all the radio engineering for Clear Channel in 1985, and up until December of 1997, I was still an online manager of several radio stations. So, only in the last two to two-and-a-half years have I done corporate work exclusively. I've always done corporate work, but it was always in addition to running a group of stations.

RW: How did you get into this business? Were you always an engineer?

Smith: I started on the air in the '60s in Cape Girardeau, Mo., as a CHR jock at KGMO(AM), which was Top 40 at that time. I worked in Cape Girardeau for a number of years and then in 1970, I worked for Eddie Fritts' dad, Ed Fritts Sr., in Paducah, Ky. at WPAD(AM). (The younger Fritts is president and CEO of the NAB. — Ed.)

Then back to Jackson, Mo., to build and manage stations and finally on to Clear Channel.

RW: How did you become interested in radio?

Smith: My earliest memory is wanting to be in this business. In grade school, when kids even wanted to be doctors or nurses or firemen, I wanted to be the guy on the radio.

RW: How did you get your start in engineering?

Smith: In 1972, I had an opportunity to build an AM from the ground up, from a CP, for Willie Bryan in Jackson, Mo.

I didn't know anything about building a radio station. So I took a correspondence course from the Cleveland Institute of Electronics. I did that for several reasons;

to learn resistance values, what a diode was, how a tube functioned and how a transistor worked. But I really did it because I had a real terror of reaching into the back of a transmitter and killing myself.

I later bought the station in 1975, put an FM on the air and sold the combo in 1978 to Al Sikes, who later became chairman of the FCC. At that time, he was a Missouri broadcaster who was buying stations in small communities. Then I went to work for Clear Channel.

RW: What was your position when you started at Clear Channel?

Smith: I was the general manager of their facility in Port Arthur, Texas.

RW: How did you switch from being a GM to engineering?

Smith: I was always a GM and when Hurricane Camille hit the Gulf Coast, sometime in the early 1980s, it wrecked our stations and leveled our tower.

There were no engineers available. The tower companies were all working everywhere. Lowry Mays (Clear Channel chairman/CEO) said to keep everyone employed and he would try to get somebody there to help as soon as we could, but there just wasn't anyone available. I'm not sure Lowry knew that I had any technical background at that time.

There were six FM bays that were laying out in a field. I salvaged three and stacked about 90 feet of Rohn tower, using the building to anchor it.

A long story made short is that when the power finally came back on, we were ready to go on the air. Lowry thought that

that was rather inventive.

Since the other stations in Port Arthur were not on the air, we had record ratings for the next two or three months. Shortly thereafter, we started buying more stations and Lowry asked me to oversee the technical, and I've done it ever since.

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Chairman/CEO:
Lowry Mays

President/COO: Mark P. Mays

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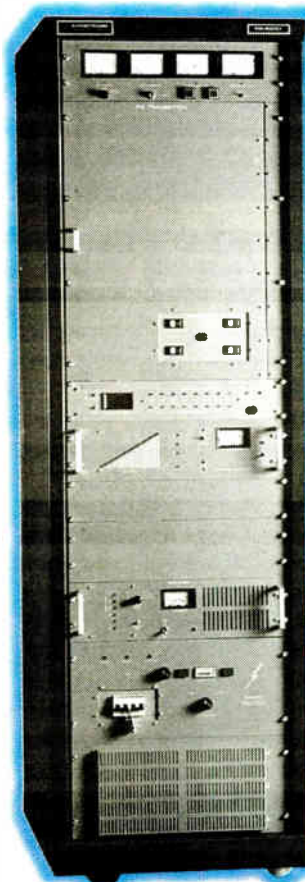
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Clear Channel Communications Inc. began operations in 1972 and became a publicly traded company in 1984. It operates, or is affiliated with, 476 U.S. radio stations, about 240 international stations, 19 TV stations and about 425,000 outdoor advertising displays in 26 countries.

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THE NAB RADIO SHOW

ORLANDO AUG. 31 - SEPT. 3



Radio Industry Steams Into Orlando

A Healthy Advertising Market Is Backdrop to Concerns Over LPFM, Satellite and IBOC DAB

Leslie Stimson

The U.S. radio industry is stronger financially than ever, and it has balled up its fists to prepare for battle against low-power FM stations and other media, including the Internet.

As it approaches the new millennium and converges for The NAB Radio Show in Orlando, radio remains a darling of Wall Street.

The size of deals and cash flow margins have increased dramatically in the past three years, although station trading has slowed. Big groups have amassed

clusters, and now group executives are focused on running their operations.

Station managers are looking towards new or expanded advertising categories — “dot-com” companies, utilities and pharmaceuticals, for example — to grow radio’s traditional 7 percent share of the ad pool.

The biggest regulatory issue facing radio remains the commission’s desire to explore a new low-power FM service. The comment period is about to draw to a close; public comments to the FCC on MM 99-25 were due Aug. 2 and replies are due on Sept. 1.

Indeed, it was at the Radio Show last year that FCC Chairman Bill Kennard announced his support for creating a new class of low-power stations, regardless of the “inconvenience” to existing broadcasters.

At the same time, Kennard said the commission would not authorize LPFM if it would further degrade the FM spectrum or otherwise affect the industry’s transition to digital broadcasting.

As it gathers in Orlando, the industry awaits a Notice of Proposed Rule Making that would govern radio’s transition to in-band, on-channel digital audio broadcasting.

To many broadcasters, finding a standard for IBOC DAB has become

See RADIO SHOW, page 21 ▶

Engineers’ Workshops Set at NAB

Alan R. Peterson

Don’t feel bad for “Old Sparky,” your chief engineer.

At first impression, it would seem The NAB Radio Show will be all business and not a lot of good old nuts-and-bolts know-how to hold his or her attention. One might think the



John Bisset

engineer ought to be spared the pain and stay home to mind the station.

Wrong.

The annual fall NAB Radio Show features three don’t-miss Engineering

See ENGINEERING, page 28 ▶

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Circle (21) On Reader Service Card

World Radio History

▶ **RADIO SHOW**, continued from page 20 more important as satellite-delivered digital radio license-holders CD Radio and XM Satellite Radio move forward with planned service launches in 2000 and 2001, respectively. Attendees will learn the latest about at the "DAB Update Panel" on Wednesday of the show.

The NAB again is trying out a new city for the Radio Show. Last year was the first time the event was held in Seattle. Organizers are hoping for success in the Orlando sun.

"It's one of the top convention sites in the country, and NAB has received numerous requests to hold the Radio Show here," said Ann Marie Cumming, director, media relations, NAB Corporate Communications.

Early show

The convention is earlier than last year's, and it abuts Labor Day weekend.

"Considering that a holiday weekend follows this year's show, we changed the show dates so that attendees can return home in time to enjoy the long weekend or they can bring their families

was about 7,200. Sources said it remained to be seen whether many attendees would bring their families to Orlando, given that the show coincides with the beginning of the school year in many locations.

This year, the show offers more than 70 sessions and an exhibition hall with a record 215 exhibitors.

The show begins with the opening keynote by entrepreneur, author and inspirational speaker Wally Amos, creator of The Famous Amos Chocolate Chip Cookies.

Station financing

The business of running a station and generating revenue is a focus of many sessions. Though station trading has slowed in larger markets, it is going strong in small markets, with financing available.

"People always complain about financing, but it seems for that for established broadcasters, it's not a problem," said John Garziglia, Pepper & Corazzini.

A lot of the financing of deals in smaller markets is done through local banks, a change from a time not long ago

perhaps it didn't have 10 years ago," said Garziglia.

Meanwhile, the biggest groups in radio are getting bigger.

Last year at this time, CBS was the top owner as measured by both revenue and holdings, with 177 stations.

Now, Clear Channel Communications has purchased Jacor Communications; the latest count of stations owned or managed is about 476 (see related interview, page 1). And shareholders have approved a merger between Chancellor Media Corp. and Capstar Broadcasting Corp. for a total of 465 stations. The new entity is called AMFM Inc.

Three companies have passed the \$1 billion mark in estimated annual revenue as a result, according to BIA Research — AMFM Inc., CBS/Infinity and Clear Channel. The fourth-ranked group, ABC Radio, is at \$355.6 million.

An annual highlight of the show is the "Group Executive Super Session," set for Thursday Sept. 2. Taking part are Ed Christian, president and chief executive officer of Saga Communications; Randy Micheals, president of the radio division of Clear Channel Communications; Dick Ferguson, vice president and chief operating officer of Cox Radio Inc.; Ken O'Keefe, chief operating officer of AMFM Networks; and David Field, president and chief operating officer of Entercom Communications Corp.

The Net — friend or foe?

Radio's love-hate relationship with the Internet is explored in several sessions.

Broadcasting analysts have come to realize the benefit that "dot-com" ads have brought to radio, and are telling the investment community. For example, William Meyers of BancBoston Robertson Stephens & Co. told The Wall Street Journal that dot-coms "are eagerly shoveling IPO proceeds into brand promotion. On radio, mottos and slogans may be broadcast repeatedly as potential customers drive to work and about town."

Several sessions are devoted to the

THE NAB RADIO SHOW

How to Go

What: The NAB Radio Show

Where: Orange County Convention Center, Orlando, Fla.

When: Aug. 31-Sept. 3

Information: Phone (800) 342-2460 or (202) 429-4194, fax (202) 429-5343, Web site www.nab.org/conventions/ or e-mail register@nab.org

Exhibit Hours: Tuesday, Aug. 31: 5-8 p.m. Wednesday, Sept. 1: 9 a.m.-6 p.m. Thursday, Sept. 2: 10 a.m.-4 p.m.

Internet and its impact on radio, including "Radio Under Siege — Will Satellite & The Internet Do To Radio What Cable Did To TV?" and "Making Money On The Internet."

Edison Media Research and Arbitron look at the impact of streaming media in "The Broadcasters vs. The Webcasters: Whose Business model Will Win?" on Thursday.

LPFM, DAB, ownership and a host of other regulatory issues will be covered Thursday morning by Kennard at the "FCC Chairman's Breakfast." Related sessions include "Low Power Radio Service — Fact or Fiction?" and "FCC Radio Ownership Rules."

Wednesday is also the day for the NAB Radio Luncheon. This year's National Radio Award winner is Regent II Communications President and Chief Operating Officer Bill Stakelin.



Orange County Convention Center

to Orlando and take advantage of discount travel packages," said Cumming.

How will the timing and locale affect turnout? Attendance at last year's show

when such lenders were less eager to work with broadcasters.

Thanks to Wall Street's notice of radio, "The industry has a glow on it that

day at the Group Executive Super Session.

Ed Christian, president/CEO of Saga Communications; Dick Ferguson, vice president/COO of Cox Radio Inc.; David Field, president/COO of Entercom; Ken O'Keefe, COO of AMFM Inc. and Randy Michaels, president, radio division of Clear Channel Communications are set to serve on the panel.

These radio pros will discuss indus-



Ed Christian

try trends and challenges and the direction of radio.

The session is sponsored by BancBoston, Robertson, Stephens.

DON'T MISS AT THE NAB RADIO SHOW

Group Executive Super Session Thursday Sept. 2 3:15-4:15 p.m.

Radio bigwigs are the order of the



David Field



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Stakelin Makes His Mark in Radio

Bill Mann

Bill Stakelin remembers how he started out in the business.

"I was a green, star-struck 14-year-old kid playing Elvis records at a little station in Georgetown, Kentucky."

From those humble beginnings, Stakelin graduated from Georgetown College in his hometown. Today, his alma mater's radio station is named after him. It's a sign of the mark Stakelin has made in radio.

Another honor awaits the 42-year radio vet at The NAB Radio Show in Orlando.

Stakelin, president and COO of Cincinnati-based Regent II Communications, will receive the 1999 National Radio Award. It will be pre-

sented during the Radio Luncheon on Wednesday, Sept. 1, and will be a fitting tribute to Stakelin's impressive — and still ongoing — radio career.

Industry contributions

"Bill represents the best that broadcasting has to offer," said NAB President and CEO Edward O. Fritts. "His contributions not only to NAB, but to the industry as a whole, certainly make him well deserving of the NAB National Radio Award."

"Bill's experience, success and leadership in the radio business are meritorious qualities for this award," said NAB Executive Vice President/Radio John David. "He started in radio early in his life and is a hands-on group executive who's involved in program-

ming, management, sales and ownership.

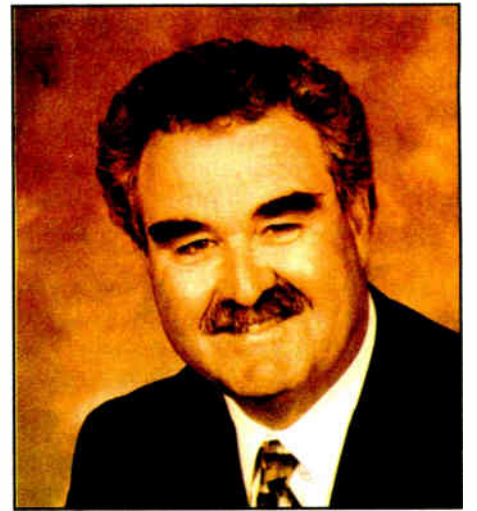
"He has also showed incredible leadership throughout his career by representing radio broadcasters as president/CEO of RAB and Joint Board Chairman of the NAB. Bill has a distinguished career of community service and broadcasting achievements. NAB is proud to honor his service to radio in Orlando."

'Unexpected' honor

Stakelin told RW he was "humbled" to be chosen to be this year's recipient, mentioning previous winners Mel Karmazin, Ed McLaughlin and Lowery Mays.

"These people are my heroes," said Stakelin. "This is quite an honor, and an unexpected one at that."

Stakelin has also worked for Bluegrass Broadcasting, where he became executive vice president and COO. He co-founded or was a major investor in



Bill Stakelin

"Television is in a state of flux and turmoil right now, and newspaper circulation is dwindling. Radio is finally getting its due," said Stakelin with evident pride.

"We're offering stability to advertisers after consolidation. We don't hear that term we always used to hear from agencies, 'tertiary.' We don't run into that today largely because we're now perceived differently, as stable. Also, because we now have a much larger reach and larger audiences."

Stakelin explained why he sold Regent I and its major-market stations in early 1998 to Jacor and set up Regent II with partner and Jacor founder Terry Jacobs and focused on small-to-medium-market properties.

"We felt that the business had ripened in respect to major-market stations, and that the opportunities were in smaller properties. So that's why Terry and I jumped in — we had lots of radio experience, and you want to go where the best opportunity is."

"Terry has 27 years in the business, and I have 42."

"In some of our markets we have three to six stations, and that reach is almost always better than that of the local paper. Radio's greatest strength has always been its targetability. This is especially important in the 18-34 demo, where radio is still experiencing growth."

"Newspapers' own research shows that print is rapidly losing that demo these days," he said.

He worked as a DJ as a teen ("Elvis

Stakelin said consolidation has stopped the infighting that held radio back.

Apollo Radio, Regent Communications (which he sold to Jacor in 1998) and, now Regent II, which owns or operates 40 stations in small- to medium-sized markets.

Stakelin also is a current or past board member of the National Advertising Council, Associated Press, Kentucky Broadcasters Association, Florida Broadcasters Association, Broadcast Pioneers and ABC Radio Affiliates. He is a member of the University of Kentucky's Journalism Hall of Fame.

Stakelin says that even 10 years ago he couldn't have imagined where the radio business would be today, "how radio would mature into a major economic

Television is in a state of flux and turmoil right now, and newspaper circulation is dwindling. Radio is finally getting its due.

— Bill Stakelin

institution. Consolidation has given radio stability," Stakelin said in his courtly Kentucky drawl.

"It stopped the infighting that held it back and prevented it from becoming as successful as it is today."

Radio's reputation

"For most of my career, radio was called a tertiary medium, secondary to TV and newspapers for many advertisers. It's been interesting to see it evolve into what it is today — a lead medium with a good reputation.

was just starting out when I was"), then moved into programming over the next five years before moving into sales — a not-atypical career track for a future radio executive.

"I love this industry," said Stakelin, who joked, "I guess if you get old enough, you'll win some awards."

"Listen, I'm proud of what radio's done and what it's become. We're now a major force to be reckoned with. I don't have any doubts that we have a bright future as radio moves into a new millennium."

DON'T MISS AT
**THE NAB
RADIO
SHOW**

**Keynote
Tuesday Aug. 31
2-3:15 p.m.**

Got cookies?

Wally Amos — entrepreneur, author and inspirational speaker — will be delivering the NAB Radio Show keynote address. Amos is best-known as the creator of The Famous Amos Chocolate Chip Cookies.

Amos, a long-time supporter of educational causes, has been the national spokesperson for Literacy Volunteers of America since 1979 and also serves on the board of the National Center for

Family Literacy and Cities-in-Schools program, a high school dropout prevention effort.

Amos will speak on his personal triumphs and focus on the success of the principles by which he lives — commitment, integrity, attitude, faith and imagination.

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Programming Track at Show Timely

Craig Johnston

Programmers will find a full lineup of sessions to help them address the future at The NAB Radio Show.

Radio's challenge from non-traditional media is met with the Wednesday session, "Radio Under Siege: Will Satellite & the Internet Do to Radio What Cable Did to TV?"

"I don't think we've seen anything like this in history," said moderator Michelle Stevens, vice president of programming, Nassau Broadcasting Partners. Panelists will lay out the problems the new media



Lorna Ozmon

present and chart a path to thrive with these new competitors.

Internet radio listeners

Those looking for the cold, hard facts about the amount of listeners Internet radio has attracted will want to attend "The Broadcasters vs. the Webcasters: Whose Business Model Will Win?"

The Thursday session will detail results of the third Internet listening study done jointly by Edison Media Research and Arbitron.

This year's programming track takes particular focus on radio morning shows. Each day sees a session addressing the time period which drives radio today.

**DON'T MISS AT
THE NAB
RADIO
SHOW**

**Radio Luncheon
Wednesday Sept. 1
12-1:30 p.m.**

The presentation of the National Radio Award is the highlight of the Radio Luncheon. Regent II Communications President/COO Bill Stakelin is this year's recipient.

Stakelin has served as chairman of the board of NAB and president/CEO of the Radio Advertising Bureau, and has co-founded or has been a major investor in Apollo Radio, Regent Communications and Regent II Communications.

The Radio Luncheon is sponsored by Pricewaterhouse Coopers.

"The dial has become so crowded, with less music diversity and no separation, that talent and personality is the only way to make a difference," said Tracy Johnson, programmer for San Diego's KFMB-FM. The morning show, which delivers 60 percent of radio revenues nationwide, becomes an obvious target of attention.

Johnson and radio consultant Alan Burns present the Tuesday session, "Morning Radio: A Guide to Creating and Developing On-Air Superstars."

"Every station is trying to either get a morning show together or keep one together," said Burns, president of Alan Burns and Associates.

The session is based on a new book about the subject of developing morning show talent authored by the two presenters. Their book is "Morning Radio: A Guide to Developing On-air Superstars."

Morning show methods

"Many stations are on one agenda, with their morning shows going off in their own direction," said Johnson. The presentation will discuss methods stations can use to help programmers and on-air talent understand each other.

The session will deal with the skills needed to develop radio personalities — especially for morning shows — and as a guide for radio personalities who need

tips for both performance and career development.

"Morning shows are responsible for more than half of radio market revenues," says Lorna Ozmon, president of Ozmon Media in Chicago. "But stations are just starting to recognize the importance of coaching the morning show talent to maximize their potential."

Ozmon moderates the "Making Morning Show Magic" session on Thursday. She and her panelists will offer suggestions on how program directors can coach their morning crews.

"Invading signals from satellite and other sources make this all the more important. Research shows two-thirds of the audience wants more than just music; they're after companionship on the radio. You have to give them more than just two

See PROGRAMMING, page 25 ▶

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Circle (25) On Reader Service Card
World Radio History



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Plenty of Sessions for Radio PDs

► PROGRAMMING, continued from page 23 hosts answering 'Me too' to each other."

The panel will help program directors develop structure in their morning shows, up the level of creativity, and initiate and monitor preparation habits in their morning show talent.

Market magic

The "Today's New Morning Stars" session Friday morning will feature Bob & Sheri of WLNK(FM) in Charlotte, N.C.; Steve & D.C. of WKXX(FM) in St. Louis; and Jamie White of KYSR(FM) in Burbank, Calif. These successful morning show talents will offer programmers a look at the magic they work in their markets.

As the importance of morning radio talent has been recognized, contract negotiations with those employees has come under the spotlight.

In Wednesday afternoon's "Here's the Deal ... the Art of Negotiating," panelists from a variety of backgrounds will focus on these negotiations from their own viewpoint.

"Morning talent and station management are all starting to see how integral personality is to the success of the station," says panel moderator Tracy Johnson of KFMB-FM in San Diego.

"As talent becomes established as franchise players, their bargaining power increases. This puts management in a difficult situation in determining what price is too high for their services.

"The art of constructing a deal that rewards outstanding talent and leaves management in a profitable situation is one of our great challenges today."

Panelists will be drawn from on-air talent, general managers and talent agents.

Pressures on the bottom line encourage programmers to use voicetracked dayparts to hold down expenses. But high technology solutions can have a downside.

"Some say voicetracking will take the personality out of a radio show," said Steve Holbrook, program director at Cox/Orlando. But he said that doesn't need to be.

Community

"Successful stations, whether voice-tracked or live, talk about the community," he said. Holbrook's Wednesday afternoon panel "How to Stay High Touch in a High Tech World," will offer tips on localizing nationally delivered programs.

"Our panelists will talk about writing successful scripts for voicetracking and give examples of successfully localized national programs."

The Programming Track offers several sessions to help programmers check their progress and intuition with research.

Even stations which have never used music research before will be able to see how they can benefit from Kelly Music Research's first multi-format national Living Room Music Test at Tuesday afternoon's "From the PD to P&L."

"This new methodology works because it surveys radio's true customers: the same listeners who are likely to get Arbitron diaries," said session moderator Tom Kelly.

The session will show stations from even the smallest markets how they can use the new study.

"Previously this study has been done

only in markets where it was commissioned, but we've used a nationwide database to get a truly national study which gets into large and small markets."

The panel will include a music consultant who will give his views on how to implement music research and a general manager who will give his perspective on using the study to drive the bottom line.

The first live demonstration of Arbitron's "PD Advantage" takes place at the "Arbitron: More Than Just a Book of Numbers" session Thursday afternoon.

"PD Advantage is the first ratings software suite designed specifically for the radio program director," said Arbitron's



Bob Michaels

Bob Michaels, who will host the session. "There's been nothing else like it in either radio or TV."

PD Advantage includes 10 new reports. Among them is one which reports listener zip codes not only for their residences, but for work as well. "This will help PDs calculate the effectiveness of a noontime promotion in downtown, where few of them actually live."

Listeners can be tracked when they leave a station through a report called "When listeners leave my station, where do they go?"

Thirty-five to 40 percent of listeners' ratings diaries contain comments, according to Michaels. A CD which accompanies the reports includes these listener comments in a searchable format.

Release of the new software has been timed to The NAB Radio Show.

In another Thursday session focusing on research, "Research: Programming Tool or Loaded Gun" helps programmers design their surveys to yield the most useful information, and what to do with the information once it is in hand.

Station identity will be under the spotlight during the convention.

"In an era when everyone is armed with research, and format lines are blurred, where we all share music we used to play exclusively, we have to differentiate ourselves to the audience," said Jimmy Steele, vice president and program director for KPWR(FM) in Los Angeles.

Steele's Wednesday afternoon panel "Imaging and Positioning: Why Both are Important & How They're Different" explores ways of making a station stand out from the crowd.

With a group of panelists who have been successful in this area, the session addresses how to use research to determine the maximum position for a radio station and where a station is in relation to its competitors.

Steele said, "It all gets down to how does your audience respond to your call letters. Radio stations need to clarify and differentiate themselves in their market."

Clutter has always been a concern for radio programmers, said Gail Austin, program director of WQIK-FM in Jacksonville, Fla. "And the demand for added value promotions has definitely been increasing."

Austin moderates "Breaking Through the Clutter" Thursday afternoon. She's assembled a panel of professionals who know how to get the message heard above all the noise.

"This continues to be a greater challenge for program directors," she said. "Finding the right place for added-value promotions, sponsorships, benchmarks and other programming elements is the key to producing a highly effective, clutter-free radio station."

Austin said it is important that the program director remain focused on the big picture: The goals and image of your station. She and her panelists will give specific suggestions and examples.

"Even in cases where the promotion is a little weak or the client rigid, these added-value promotions can become a win for both the client and the station."

Radio station programmers are continually pressed to come up with the Big Idea for a station and/or sales promotion.

"While brainstorming with a group is usually the best technique for coming up with ideas," said Doug Harris, president of Creative Animal International, "sometimes you're stuck with the job by yourself."

His Wednesday afternoon presentation

"Dare, Dream and Deliver" offers tools to help the individual be creative in a solo session. "This can help you dazzle your audience and bring in the revenues."

Harris, with a background in promotion and marketing, said the two keys are to release and inspire. He'll teach those in attendance how to release from the everyday worries so they can concentrate on their project and how to look for external means of inspiration.

The conflict between maximizing revenues and too many commercial messages will be examined in Wednesday afternoon's "Spotloads: How Much is Too Much?" Panelists will examine the issue of how far a station can go before it starts to turn away listeners.

GSMs vs. PDs

Sales managers will face off with program directors on this ongoing and unresolved question.

One rule of maximizing revenues is keeping advertisers happy.

"More and more, clients want more than just spots," said Henry Ferry, director for media and special promotions, America Media & Special Promotions. "Instead of reinventing promotions for each client, we can show them how to draw on instant resources for high-powered promotions."

In Friday's "101+ Great Revenue Generating Promotional Ideas," Ferry and partner Ken Scott will discuss their insured promotions, which allow stations to offer chances at winning huge prizes, up to \$5 million.

■ ■ ■

Craig Johnston is a contributor to *Radio World* and a columnist for *TV Technology*. He is director of IMAS Academy Worldwide.

Digital Audio Just Got Easier!

Cart	Title	Artist	Length	Intro	End	Type
346	Marines		:30	1	Stop	
218	Coca Cola		:60	2	Rdy	
398	Pizza Hut		:60	3	Rdy	
				4	Stop	
				5	Stop	
				6	Stop	

12:16:35

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Time	Cart	Title	Artist	Length	Intro	End	Type
12:13:07	M1012	Photograph	Def Leppard	04:54	:22	F	MUS
12:18:06	M2174	Friends	Elton John	02:20	:05	C	MUS
12:20:26	M1732	Dance The Night	Van Halen	02:47	:13	F	MUS
12:23:13	V026	Voice Track 26		00:12			VTK
12:23:25	DALIVE	SPOT SET		03:00		I	COM
12:26:25	J011	Jingle / Fast		00:06			Jin
12:26:31	M0713	Listen To Her Heart	Tom Petty	02:48	:11	C	MUS
12:29:19	V027	Voice Track 27		00:15			VTK
12:29:34	M2214	Black Friday	Steely Dan	03:40	:12	F	MUS
12:33:14	M0015	All Day Music	War	04:04	:19	F	MUS
12:37:18	L015	Liner # 15		00:15			LC

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Operating Clusters, Standalones

Lynn Meadows

Managers operating standalones in the era of big corporate clusters as well as managers of those clusters will hear many ideas to operate their stations more efficiently in the Management Track sessions at this year's NAB Radio Show.

From practical logistical suggestions on organizing a market cluster, to the role of independent promoters, to a look at where the next wave of great radio talent will come from — there are sessions both corporate and independent broadcast managers can use.

One wit said the major topic for managers attending this year would be "How hot is it and why the hell did they decide to have this year's convention in August?"

But others agreed that getting a handle on operating multiple stations will still be the real hot topic.

Operating big purchases

"The buying of properties is starting to slow down. Now, we have to operate the stations. How do we do it in the 'Land of the Elephants?'" said Mike McVay, president of McVay Media.

"There have been some big successes, but we are writing history as we speak," said David Pearlman, co-chief operating officer of CBS/Infinity Broadcasting. Every new business has a

five-year plan, he said, and it is "perfectly logical" that consolidation put the radio industry in a whole new start-up plan.

McVay and Pearlman are two of the members of the Management Track steering committee for this year's radio show. Pearlman chairs the group, which met with the programming and sales track steering committees to decide on goals for the show and avoid duplication across tracks.



David Pearlman

The management track begins Tuesday afternoon with a session that is new to the radio show: "Consolidation by Design." Pearlman said radio managers have spent a lot of time talking

about managing station clusters, but not as much time looking at physically configuring a cluster in a market. Groups are organizing their facilities in many exciting ways, he said.

Several sessions dedicated to helping stations to avoid legal problems sprinkle the management track. On Tuesday, Valerie Schulte, deputy general counsel for the NAB, moderates a panel on saying goodbye to a "problem employee" without winding up in court.

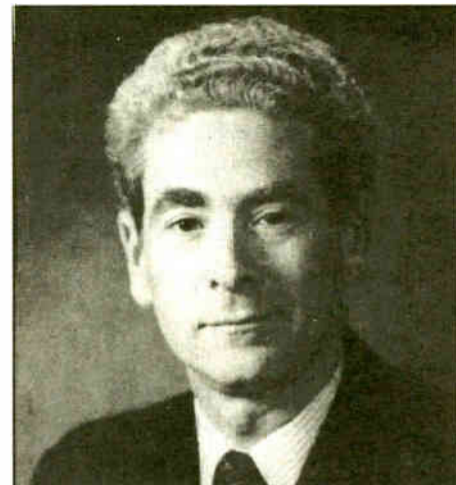
'No Mo' Money'

Wednesday's sessions include a discussion of investing in Latin America. What opportunities are available for international investment in these growing — and deregulating — markets?

The management track also includes not one, but two sessions on the hot issue of low-power FM. On Wednesday, the session "Low-Power Radio Service: Fact or Fiction?" will explain the basics of the FCC proposal to establish a new service, and what the industry is doing about it.

Another Wednesday session asks whether customer service really matters in today's financially driven broadcast world.

Two Wednesday sessions are scheduled for managers facing tighter marketing and promotion budgets: "Marketing with No Mo' Money" and "The Independent Promoter: Friend or Foe."



Irv Goldstein

He said the days of an owner being both morning host and primary sales person are gone. Most independent operators run their stations as professionally as the conglomerates do in terms of research, promotions, talent and quality of programming, said Goldstein.

Thursday is also the day to attend the session "Recruitment to Radio: Why Aren't More Coming?" which will look at why applicants are not coming to radio and what can be done about it.

You can't come to Orlando and not think a little bit about Disney. A Thursday session explores the company's philosophy and strategies for creating customer value and turning customers into brand advocates.

The second session to deal with LPFM also takes place Thursday, "Cutting Through the Static: Low-

Pearlman said managers have spent time talking about managing station clusters, but not as much time looking at physically configuring a cluster in a market.

"Many broadcasters have purchased their competition," said McVay. "They feel as if fewer marketing dollars will need to be expended. Cross promotion from one station to another sister station has allowed for a decrease in expenditures."

Said McVay, "I happen to believe that accepting marketing money from the record and recording industry is fine, as long as it's disclosed and broadcasters live by the law that prohibits payola and plugola. You cannot take a gift for adding a song to your playlist or airing a such a song."

Also on Wednesday, a morning session looks at the "ideal cluster structure." How are radio managers handling clusters? Is this the era of multiple-market managers? Should groups program and promote stations individually, or with an "all-in-one" strategy?

On Thursday, Irv Goldstein, vice president and general manager of WLAD(AM), WDAQ(FM) and WREF(AM) in Danbury, Conn., will moderate a session on independent broadcasters who are successful in markets with conglomerate competitors.

Goldstein prefers the term "independent broadcaster" to "mom and pop."

Power FM and Capitol Hill" brings key congressional staffers to the show to discuss the political landscape as it affects LPFM.

Thursday sessions also include a panel of award-winning managers, discussing what has worked and has not for them, and a session to help managers steer clear of FCC fines and forfeitures.

Friday includes another session Pearlman said is unique this year: "Utility Deregulation: Watts It All About." Several states have already deregulated their utilities, said Pearlman, and more will follow suit. This session will highlight the savings for broadcasters.

A Friday morning session is "Public vs. Private: How Do Shareholders Change Your Operating Style?" The premise: radio traditionally has had to serve two customers: listeners and advertisers. Now managers must consider shareholders too. How does this affect your management style?

And with the 2000 elections coming, a Friday session will focus on equal time, lowest unit charge, reasonable access and other FCC political programming rules to help you through the election cycle.

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THE PHANTOM

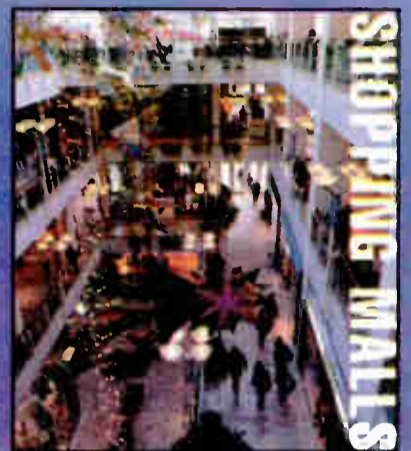
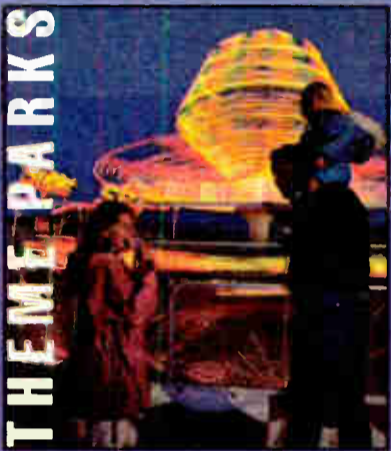
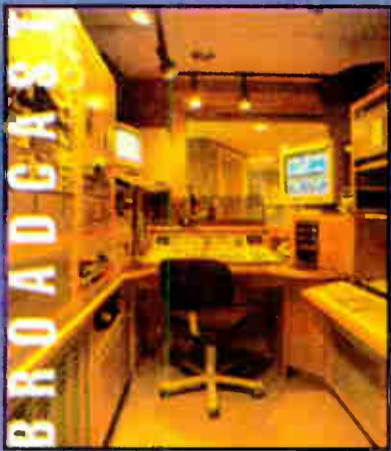
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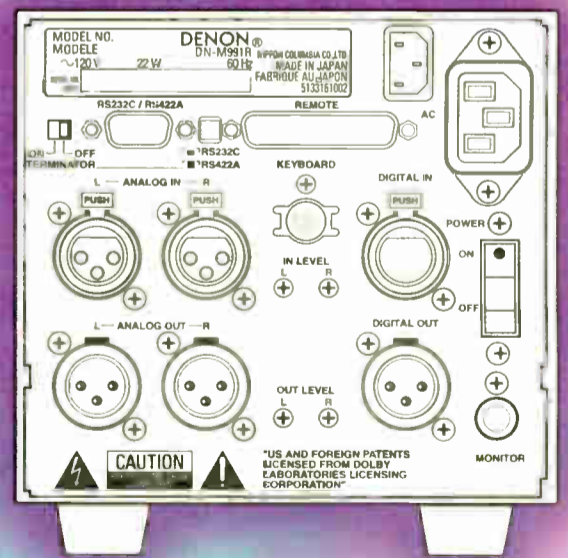


The DN-M991R offers all the features and functions that engineers have asked for, such as a large and easy-to-read florescent tube display with multiple readouts, Hot Start, keyboard entry, seamless Sleep mode, front-panel Program Play and a variety of control terminals including RS-232C, RS-422A, D-Sub 25 pin and PC-compatible Mini Din keyboard connector.



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Circle (28) On Reader Service Card
 World Radio History

DENON

The First Name In Digital Audio

Workshops for Radio Engineers

► **ENGINEERING**, continued from page 20 Certification Workshops, designed to hone the skills of modern-day radio engineers and introduce important broadcast engineering practices to technicians unfamiliar with RF technology.

All three workshops at the Orange County Convention Center run all day.

Tuesday

The first session is the "NAB AM Directional Antenna Workshop," 8 a.m. to 5 p.m., Tuesday, Aug. 31.

AM directional arrays are seen as an amalgam of RF, mathematics and perhaps a little "eye of newt" magic. Making sure engineers understand the basics of direc-

tional patterns will be the task of Benjamin Dawson, principal of Hatfield & Dawson, and Ronald Rackley, principal and engineer with du Treil, Lundin & Rackley.

The one-day workshop will emphasize a working, rather than a theoretical, knowledge of directional arrays.

"We will not be teaching all math and theory," said Rackley, "but we will be showing the working engineer what to do."

Rackley and Dawson have revived an NAB tradition. Some 25 years ago, Pittsburgh radio engineer Carl Smith conducted two-day NAB directional AM workshops. The workshops eventually dried up, as two days simply was not enough time to absorb the enormous

amount of technical details.

Following the late-90s consolidation phenomenon, new owners discovered the benefits of good-sounding and well-maintained AM stations, but also realized a scarcity of qualified engineers.

"There is a new breed of engineer that has devoted time to FM, but is not up on maintaining AM sites," said Rackley. "This talk is designed to deal directly with these engineers."

Wednesday

Some stations openly embrace digital audio and networking technology, while others are dragged down the bit stream, biting and kicking all the way. Either way,

a solid working knowledge of digital audio as it applies to radio is a modern necessity.

Find out more from 8 a.m. to 5 p.m., Wednesday, Sept. 1, as The NAB Radio Show presents the "Digital Facilities Workshop."

Topics to be covered include computer-based audio and networking, the demands of digital maintenance and troubleshooting in a facility, and "The IP Connection," devoted to the myriad of ways radio stations may utilize the Internet.

Tentatively, the panel includes Steve Carley, COO of OnRadio, and Bill Pearson, Chairman and CEO of RadioWave.Com.

"It is critically important that radio stations establish a powerful and robust presence on the Web," said Pearson. "What we do is take program content and enhance it with interactive visuals. Something that Net users can see and interact with," he said.

According to Pearson, content added to audio make it "something very different. It becomes something in addition to radio. The idea is have something 'sticky' — something that holds you there."

Thursday

Often, new engineers conversant in computer and audio terms and technologies are lost when it comes to RF.

John Bisset, engineer with Harris Corp. and author of the long-running *Workbench* series in *Radio World*, breaks in new and old engineers alike with his third annual "AM/FM Transmitter Workshop," 8 a.m. to 3 p.m. on Thursday, Sept. 2.

NAB sessions will focus on directional AMs, digital facilities and transmitter tips.

"This is a very popular workshop," said Bisset. "What we try to do is provide engineers with a 'comfort level' around RF plants. In many cases, a station will have an engineer that will not always have experience with a transmitter. There are no mentors anymore to teach the tips and tricks."

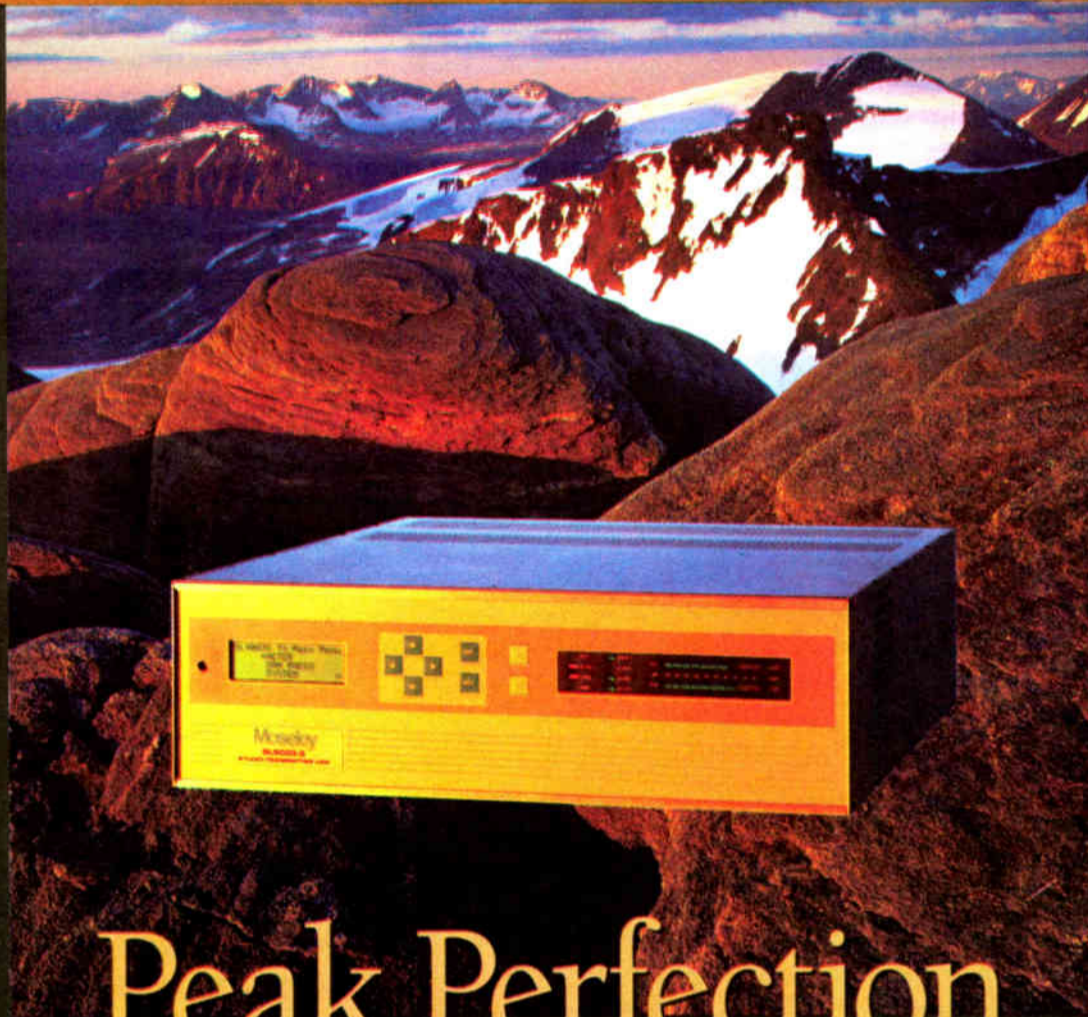
Bisset plans to draw from the expertise of a panel consisting of manufacturer representatives, as well as his own experiences, chronicled in *Workbench* for more than 10 years.

A panel consisting of contract engineers and chief engineers will discuss living through the nightmare of being taken off the air, then having to come up with creative ways to get back on.

Bisset said, "One of our best guests in the past was Lee Simmons, director of engineering for Adventure Communications."

When Simmons' FM station went off the air with a damaged antenna, he constructed a temporary replacement FM antenna using common copper plumbing pipes and elbows. This improvised antenna kept his station on the air and earned Simmons credit as "the hit of the panel," according to Bisset.

Anyone attending any or all three NAB Engineering Certification Workshops receive certificates signifying completion of each workshop, and may be credited towards SBE recertification.



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channel. Yes, we did say non-compressed. AES/EBU I/Os, combined with a built-in sample rate converter, provide seamless connection without compression or delay. User selectable digital audio sampling rates of 32, 44.1 or 48 kHz together with a choice of 16, 32 or 64 QAM allows the optimization of occupied

bandwidth, robustness and connectivity to equipment in the all-digital air chain. But most importantly, the Starlink SL9003Q is from your friends at Moseley—continuing four decades of leadership and innovation in the broadcast industry. Attain the summit of peak audio performance with the Starlink SL9003Q. ▲

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T H E F

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Circle (31) On Reader Service Card
World Radio History

Music, Merriment and Mickey

Linda Sultan

What's in Orlando besides the NAB Radio Show and the most famous theme parks? Plenty!

You won't go hungry, and you'll find a world of entertainment even if you never make it to the gates of the Magic Kingdom. Here are some tips, with contact information, to help you plan your stay.

Dinner is served

The Orlando area, a quiet backwater just 30 years ago, now boasts 3,800 restaurants. Walt Disney World's Swan

and Dolphin complex alone contains 17 restaurants and lounges. Dancing waiters serve up food at the Dolphin Fountain & Snack Shop. Strolling musicians serenade patrons who delight in a festive Italian meal at Palio. The Coral Café offers an under-the-sea family-style eatery and Kimonos Japanese sushi bar prepares a light supper. The Swan and Dolphin Hotels complex accommodates a variety budgets and tastes. Call (407) 934-4000

Orlando is filled with entertainment complexes offering a medley of restaurants, shops and amusements. While the attractions are hardly under one

roof, they are in the same general area.

Under one roof — sort of

Church Street Station Exchange, located in downtown Orlando, is a three-story Victorian complex offering food, fun and a chance to shop till you drop. Rosie O'Grady's Goodtime Emporium features a Dixieland Review — complete with can-can girls.

Enjoy Country & Western music in the Cheyenne Saloon or a sizzlin' steak at the Cheyenne Barbeque. An unusual attraction at Church Street is Commander Ragtime's old-fashioned circus midway. For information about

Church Street Station call (407) 422-2434.

Universal Studios CityWalk is 30 acres of nightclubs and restaurants. Live musical performances are featured at the Hard Rock Live Orlando. The Nascar Café, the Motown Café and the Hard Rock Café feature unique memorabilia. The Latin Quarter offers dancing accompanied by authentic Latin food. Call (407) 248-2838 for information about CityWalk happenings.

Visit The Mercado for the flavor of cobblestone streets and intimate shops. Choose from six restaurants or visit the food court. Enjoy the rock 'n' roll piano bar, then stay for the live nightly show. Call (407) 345-9887.

The civilized life

Indulge in a quiet visit to a museum or exhibition. See the world's largest display of Tiffany glass at the Charles Hosmer Morse Museum. For info, call (407) 644-3686.

Good, Better and the Best Digital Systems

It's a fact: More U.S. radio stations choose Scott Studios' than any other digital system! 2,125 U.S. stations use 4,916 Scott digital workstations. Nine of the ten top-billing groups have Scott Systems. They're the easiest to use! Scott Systems are intuitive, straightforward, simple, yet the most powerful!

Scott Studios is famous for our uncompress digital systems at a compressed price, (but we work equally well in MPEG). Scott Studios' audio quality is the very best and plays on laptops or PCs with ordinary sound cards. We dub your startup music library free. Your PD can auto-transfer songs digitally in seconds with a CD-ROM deck in his or her office.

Scott gives you industrial quality 19" rack computers, but nothing is proprietary: functional equivalents are available at computer stores. You also get 24 hour toll-free tech support!

Scott lets you choose your operating system: Linux, Novell, NT, Windows, DOS or any combination. You also choose from three systems: Good, better, best. One's right for you!

Good Spot Box



Scott's Spot Box delivers the simplicity of a triple-deck "cart" player plus compact disc quality digital sound.

Spot Box has only the one screen, so announcers always know what's playing. On the left of the screen, three digital players have legible labels for each spot and VU bars show levels. Buttons show countdown times and flash as each recording ends.

At the right of the screen, "Cart Walls" let you pick and play any recording by name, number or category. Or, number keys at the bottom load spots quickly from your log.

Scott's Spot Box includes a recorder and is very inexpensive. Options include log imports from traffic computers and music on hard drive.



The Scott System is radio's most user-friendly. You get instant airplay or audition of any song simply by spelling a few letters of its title or artist. You see when songs played last and when they'll play next. You also get voice tracking while listening to music in context, hot keys, automatic recording of phone calls and graphic waveform editing, all in one computer!

Better AXS 2000+



AXS (pronounced ax'-cess) 2000+ is radio's premier digital audio system for automation and live assist. AXS 2000+ is fully featured, with 99 sets of 28 instant play Hot Keys, log editing in the studio, live copy on-screen, big countdown timers, recording and editing of phone calls, spots and network shows.

You also get auto-fill of network breaks to cover missing spots, a Real Time Scheduler, unattended net recording, timed updates, macros and optional time announce and WAVE file imports.

For stations with large CD music libraries, AXS 2000+ can also control inexpensive consumer CD multi-pack and 300 CD juke box players.

See Scott Studios' Booth 607 at the NAB Radio Show in Orlando, Aug. 31-Sept. 2

Best Scott' System

The Scott' System (pictured above) is radio's most powerful digital system!

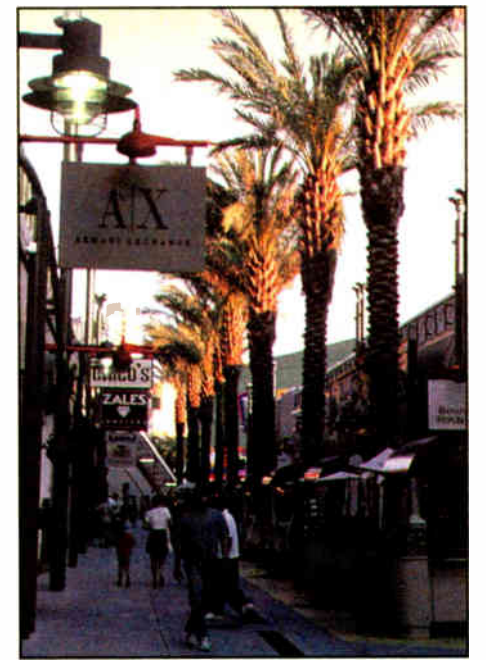
Your log is on the left side of the LCD touchscreen. Instant access Hot Keys or spur-of-the-moment "Cart Walls" are on the right with lightning-quick access to any recording. Phone calls record automatically and can be edited to air quickly. You can also record and edit spots or voice tracks in the air studio or go on the air from production.

Scott' options include Invincible seamless redundancy with self-healing fail-safes, newsrooms, 16-track editors, time and temperature announce, and auto-transfer of spots and voice trax to distant stations over WAN or Internet.

You'll easily make the move to digital audio because every system includes a week of Scott School at your station!

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Pointe Orlando

View 250 artifacts, some up to 2,500 years old, at the Imperial Tombs of China exhibit at the Orlando Museum of Art. Call (407) 896-4231.

Walk through forests of camellias and manicured landscapes at Harry P. Leu Gardens. Call (407) 246-2849. Or discover the 76-acres of Splendid China, only two miles from Walt Disney World, featuring a half-mile-long replica of the Great Wall. Suzhou Gardens, inside the park, offers shopping, dining and entertainment. Call (407) 396-7111.

Looking for adventure?

For a different view of Orlando, take a sunrise hot-air balloon ride. Blue Ridge Balloons offers one-hour rides with snacks served after the flight. Call (407) 894-5040.

Ride the giant roller coasters at Islands of Adventure. The Incredible Hulk thrusts riders forward at 40 miles per hour. Two immense roller coasters called the Dueling Dragons, hurl riders toward each other. Call (407) 363-8000.

Immerse yourself in one of the five large water parks that saturate Orlando. Disney operates three parks: Blizzard Beach, River Country and Typhoon Lagoon. Call (407) 560-9283.

Try the surfing simulator at Water Mania water park. Call (407) 396-2626. Or ride the flumes at Wet 'n' Wild. Call

See AFTER HOURS, page 33 ▶



Church Street Station

DON'T MISS AT
**THE NAB
RADIO
SHOW**

**NAB Marconi Radio Awards
Reception Dinner & Show
Thursday Sept. 2
6-10 p.m.**

Radio makes its mark. The best and brightest in radio personalities and stations will be highlighted at the

NAB Marconi Radio Awards Reception Dinner & Show at the Peabody Hotel. Bob Kevoian and Tom Griswold of the nationally syndicated "The Bob & Tom Show" will serve as emcees.

Twenty-one Marconis will be handed out in the following categories: Legendary Station of the Year, Network/Syndicated Personality of the Year, Station of the Year by Market Size, Station of the Year by Format and Personality of the Year by Market Size.

More than 100 radio stations and on-air personalities have been selected for the competition.

Business attire is encouraged at this event, which is sponsored by ASCAP.

► AFTER HOURS, continued from page 32

(407) 351-WILD.

If you've done the Disney thing but haven't visited in a while, consider its newest theme park, the Animal Kingdom. You'll need at least a full day.

Don't miss the Kilimanjaro Safari tour or the live stage performances of The Lion King and Indiana Jones. Rare animals and animated movies delight, entertain and educate. The RainForest Café, located right outside the park entrance, serves up American fare.

For information about the Walt Disney World Resort, including tickets, visit <http://disney.go.com/disneyworld/index2.html>

**Small World,
Big Worlds**

Yes, there's plenty to do in Orlando, but the most famous attractions in the area remain the wonderful worlds of Disney, around which the tourist economy here was built. Theme parks include the new 500-acre Animal Kingdom, the venerable Magic Kingdom, the international Epcot Center and Disney-MGM Studios.

The parks are open daily year-round, and kids under 3 are admitted free.

A one-day pass to any one park will cost \$44 if you are 10 or older. It's \$35 for kids ages 3-9. If you want to save a little and visit more than one park, a Four-Day Park-Hopper Pass will cost \$167 for age 10 and up, and \$134 for ages 3-9.



Magic Kingdom and Epcot Center hours are 9 a.m.-9 p.m. The Disney MGM Studios are open 9 a.m.-8:30 p.m., and Disney Animal Kingdom from 8 a.m.-7 p.m.

The Disney complex includes golf courses, water parks, numerous hotels, shopping and much more.

For information, visit www.disney-world.com or call (407) 824-4321.

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sell. It does it in real time, right
on the air. It does it without
reducing program content. It
does it without affecting pitch
or creating a "chipmunk effect."
It does it in stereo or mono. It
does it in variable amounts,
adding from zero to five
minutes, within two minutes to
two hours.

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Radio Sales Prepares for Combat

James Careless

Attack, and take no prisoners! That is the feisty, in-your-face attitude of the Sales and Marketing Conference Track at The NAB Radio Show.

The session names tell the story: "Destroying Your Cable Competition," "Behind the Enemy Lines," "Radio's Ultimate Weapon."

John Douglas, chair of the NAB Radio Show's Sales and Marketing Subcommittee and chief executive officer of Inradio, makes no apologies for this year's aggressive lineup.

Instead, he says, his subcommittee deliberately chose this tone, to ready the industry for the future.

"It's time to face the new millennium — which is going to be a new phase for radio — and to give the old one a proper burial," he said.

"This is why we scheduled sessions that force you to really think outside of the box. That's what the traditional radio person is going to have to do to succeed in the next century."

The "Destroying" theme covers sessions on cable, newspapers, television, and outdoor advertising.

Session descriptions don't pull any punches. Cable as an ad medium has some glaring holes in its armor, they state. Newspaper's days are over. Outdoor "has so many limitations that you can shoot them down easily and quickly with the startling facts."

Douglas said it is time go after the "public enemies of radio," who are cutting into its budget and stealing its customers.

But how do you destroy the competition? The key is to go after weaknesses.

"You don't beat an enemy by attacking him head-to-head. Instead, you go around his flanks, and try and surround him. In other words, you find the weakest link in his chain, and break it."

"Take broadcast television, for instance," he said. "It's not as fit as it used to be. In fact, competitors like

DirecTV and cable are cutting into broadcast TV's power seriously enough, "Behind the Enemy Lines" takes a different approach to destroying the compe-

Competitors like DirecTV and cable are cutting into broadcast TV's power ... now is the perfect time for radio to nail it.

— John Douglas

that now is the perfect time for radio to nail it." titution. In this session, John Douglas advocates striking joint marketing deals

with the enemy to get a handle on how they do things. Radio salespeople can use this information against their former allies to grab a bigger share of the advertiser pie.

Even though joint deals can sometimes seem like "dancing with Godzilla, there are some strategic partnerships that do make sense," Douglas said. "For instance, we have a business radio format at our San Francisco station; in some instances, business newspapers make good partners for it."

So what is "Radio's Ultimate Weapon?" When it comes to sales and marketing, the answer is "customer service," said Douglas.

"Just think of companies who put customers first," he said. "Think of Starbucks and Nordstrom's. All of them

See SALES, page 36 ▶



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1 and 4 audio channel
models available



SRPT-40
Frequency agile
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agile models available



Cellcast
RBS-400 Cellular remote
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Remote mixer
Available in August

With Fall remote season around the corner, it's time to prepare your game plan to increase income. Don't rely on worn out gear that could leave you speechless on the sidelines. **MARTI®** has

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**DON'T MISS AT
THE NAB
RADIO
SHOW**

**Career Fair
Tuesday Aug. 31
9 a.m.-2 p.m.**

Looking for a job? Looking for an employee? The NAB Department of Human Resource Development is conducting the Career Fair.

Owners and managers seeking entry- to management-level employees are encouraged to visit the Career Fair. Job-seekers can pick up interviewing tips and industry secrets at the Career Center Seminar from 10-10:45 a.m. An informal networking period follows.

The career fair is sponsored by Media Staffing Network.

Format Forums Deal With Success

Flip Michaels

What do Kenny G, Dr. Laura and the latest local news headline have in common?

Non-traditional revenue.

NTR will be a focal point of conversation at the NAC/Jazz and News/Talk Format Forums being held during The NAB Radio Show.

Most formats are becoming ever more sensitive to commercial clutter, looking for ways to generate new revenue streams that will continue to maintain a station's on-air integrity.

Industry journalist Carol Archer will be moderating the first format session on

Tuesday, Aug. 31. Her experience includes programming KFRC(AM) in San Francisco as music director and KIIS-AM in Los Angeles as both MD and program director.

Self-promoting

"Many major-market NAC stations, such as KTWV(FM) Los Angeles, are now producing their own concerts, in effect acting as the event's promoter," said Archer. "The Wave produces a four-concert spring series at UCLA's Royce Hall and a huge anniversary concert, this year headlining Kenny G and George Benson."

Are news/talk stations in a similar sit-

uation? Will they succeed while the advent of new information avenues such as the Internet begin to take hold?

"Successful news/talk radio stations are embracing new technologies to support what they do," said News/Talk Format Forum moderator Tom Langmyer.

"A news/talk station can put in-depth information on the Internet. The release of the Starr Report was a prime example of how effective cross-media coverage can work.

"Sports talk stations have fantasy sports sites, chat sessions and sell merchandise. News stations are building stronger brand identity through polling,

going beyond the headlines, and being an 'information store.' New revenue streams are being developed all the time. The possibilities are endless."

Langmyer, CBS/Infinity's program director for KMOX(AM) in St. Louis, plans to talk about "emerging technologies, covering the big story, building listener brand loyalty, and how news/talk stations can seize the moment in this fast-paced and changing world."

Changing oldies

On Wednesday, Sept. 1, Bill Pasha, vice president of programming for CBS/Infinity, will moderate a session on oldies formats. Programmers in the oldies arena will have plenty to talk about with the recent attention to rhythmic and "Jammin'" formats.

"We're faced with tremendous pressures from demographic acceleration which may lead to audience attrition and sales misperceptions, an attitude by some broadcasters that rhythm oldies can not exist with traditional oldies," he said.

"This NAB Radio Show session will feature oldies panelists who will focus on the unique marketing and usage positions of the format. They will discuss the coexistence of the traditional version of oldies and newer, less traditional variations."

Panelists include Joe McCoy of WCBS-FM in New York, consultant Chris Elliott and Bill Phillips, one of the longest-term oldies GMs in the South.

Also on Wednesday, attendees can join 20-year veteran Teri Avery for the Urban Format Forum.

"With the Internet there's no turning back now," Avery said. "We as urban programmers must find our piece of this puzzle and capitalize on it. I want people to walk away from this session with new ideas for their stations and careers in urban radio."

Journalist Tony Novia takes center stage for the CHR Format Forum, also being held Wednesday.

"In order to keep winning, our radio stations have to continue to do a better job of being local. We have to make our radio stations an important part of our local communities. A local, well-programmed, exciting radio station with

See FORMATS, page 37 ▶

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Service: 'Ultimate Weapon'

▶ SALES, continued from page 35

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"As a customer, you feel that they really care about your business, and that they'll go the extra distance in making you happy."

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■■■

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

► FORMATS, continued from page 36
compelling personalities will beat a jukebox any day of the week."

Rock of radio

"We plan on focusing on the areas of music, personality development and marketing/promotions," said Rock Format Forum moderator Tommy Hedges, president of the Pollack Media Group. Panelists include Joe Bevilacqua of WHJY(FM) in Providence, R.I., Dick Schuetz of WJRR(FM) in Orlando, Fla., and Kelli Cluque, KNCN(FM) in Corpus Christi, Texas, as they share their market experiences during the Thursday session.

"Radio is exciting right now no matter what format the station is in," said AC Format Forum moderator Dan Vallie, founder and CEO of consulting firm Vallie Richards.

Panelists will include Smokey Rivers, who programs AC station KEZK-FM in St. Louis, and Angela Perelli, who programs the modern AC KYSR(FM) in Burbank, Calif.

"It's a critical time, but also because of the prosperous times, many have their head in the sand, while a few are planning for the future and will be the ones that survive and win," Vallie said.

The AC Format Forum takes place on Thursday.

...

Flip Michaels is the director of multimedia development for WITF Inc.

DON'T MISS AT THE NAB RADIO SHOW

**FCC Chairman's Breakfast
Thursday Sept. 2
7:30-8:45 a.m.**

This is your chance to put in your two cents worth on low-power radio, auctions, digital audio broadcasting, EEO and just about anything that affects your stations on the regulatory side.

Join other radio professionals at the FCC Chairman's Breakfast. FCC



Bill Kennard

Chairman William E. Kennard will be the featured speaker at this question-and-answer forum.

This event is sponsored by Newcourt Capital.

And the Nominees Are ...

More than 100 stations and on-air personalities have been selected for the 1999 NAB Marconi Radio Awards. Here are the nominees in several top categories:

Legendary Station of the Year

KOA, Denver
KROQ, Los Angeles
KTRH, Houston
WBAP, Dallas
WBZ, Boston

Network/Syndicated Personality of the Year

Art Bell, "Coast to Coast AM with Art Bell," Premiere Radio Networks

Bob Kevoian & Tom Griswold, "The Bob & Tom Show," AMFM Radio Networks
Don Imus, "Imus in the Morning," Westwood One Radio Networks
Jim Bohannon, "The Jim Bohannon Show," Westwood One Radio Networks
Rush Limbaugh, "The Rush Limbaugh Show," Premiere Radio Networks

Major-Market Station of the Year

KGO, San Francisco
KHKS, Dallas
KPWR, Los Angeles
KSCA, Los Angeles
WVEE, Atlanta

Major-Market Personality of the Year

Bob Collins, WGN, Chicago

Kevin & Bean, KROQ, Los Angeles
Bill Mack, WBAP, Dallas
John Mason, WJLB, Detroit
Matt Siegel, WXKS-FM, Boston

Small-Market Station of the Year

KOGA, Ogallala, Neb.
KOZT, Ft. Bragg, Calif.
KTTS-FM, Springfield, Mo.
WGOH, Grayson, Ky.
WQLT, Florence, Ala.

Small-Market Personality of the Year

Terry Bell, KKAJ, Ardmore, Okla.
Al Caldwell, KLVI, Beaumont, Texas
Jim King, KECO, Elk City, Okla.
Scott Kooistra, KYNT, Yankton, S.D.
Woody, WAOR, South Bend, Ind.

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Stroll the Floor, See Some More

Alan R. Peterson

By now, you should be comfortable with the idea of computers being at the heart of your radio station. The level of sophistication found in PC-based tools for traffic, on-air playback and storage make stations run smoother, sound better and reap greater profits.

This is evident in many new broadcast products on display in Orlando.

Even non-computer-based products have achieved a level of sophistication not seen before, in everything from station tee-shirts to antenna manufacturing methods. Here, RW gives you a brief peek at some of the new items you will

see in the Orange County Convention Center exhibit hall.

Computers are everywhere

On-air machines are coming on strong, with products like the Linux-driven touchscreen audio player/recorder from Scott Studios. An early functional version of the player, running under the popular UNIX-like operating system, was exhibited at the spring show in Las Vegas. The company will also display its Scott 32 System for Windows, DOS and now optimized for the coming Windows 2000 OS.

Broadcast Software International (BSI), known for cramming lots of fea-

tures into inexpensive software packages, will display the latest version of its \$999 WaveStation automation program.

"This year, we're offering WebConnect," said BSI President Ron Burley. "If there is a log error or a spot missing, WaveStation sends you an e-mail notifying you of the problem."

WebConnect also acts as a digital audio courier service. According to Burley, "You can send spot or promo updates to all stations in your chain by standard e-mail."

Dalet Digital Media Systems will roll out the Dalet 5.1 digital automation system at The NAB Radio Show.

Robin Wang, director of marketing for Dalet, noted the features in version 5.1 make it a more unified radio package than before.

"We are featuring an integrated



Comrex Envoy

music scheduling system now," he said. "Title management has been improved and you can define your own attributes to each song. You can program and schedule your music without having to import a log from a third-party program."

Changes made to the Dalet "Surfer" multitrack editor include mixing MPEG and linear audio files at the same time, along with enhanced drag-and-drop graphical management of audio elements.

Computers used for traffic and billing can make more money per-day for the radio station. A special revenue maximization feature designed into the DeltaFlex III business software from CBSI can make revenue appear almost out of nowhere.

"Let's say you have an oversold situation," said Eileen Tuuri, marketing and communications manager for CBSI. "The revenue maximization looks at all spots and all conditions of each contract, then returns a schedule that will make the most money for that day."

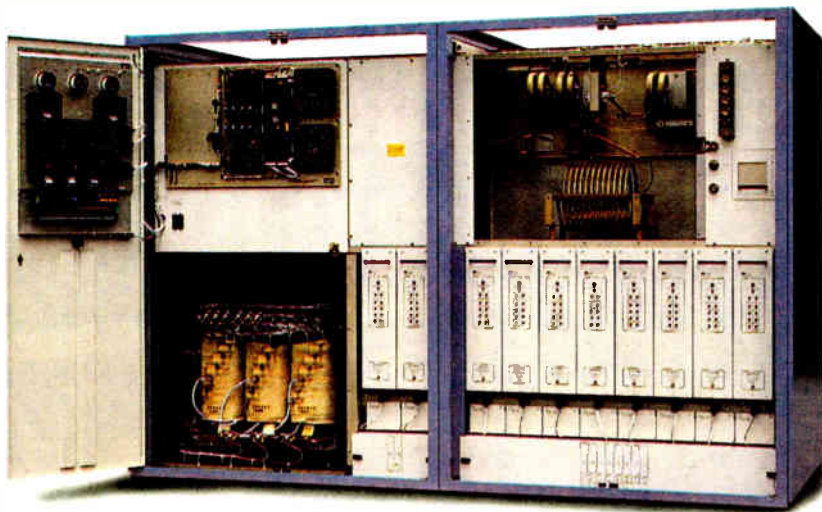
In one case, Tuuri reported one station finding as much as \$6,200 in additional income in just one day.

Also at the show will be Management Data Software, promoting its new MD Broadcast Studio 3.0 system.

Dialing up the digits

Are you giving thought to the eventual digital audio broadcast standards that
See EXHIBIT FLOOR, page 41 ▶

Knowledge



is power.

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You know the best is efficient and reliable.
You know the best is digital-ready.

The Nautel XL series of AM transmitters are built to provide the reliability you've always wanted, and the capabilities you'll need in years to come. Every XL model is 20% more powerful than competing transmitters. That's enough reserve power to accommodate simultaneous IBOC digital transmission while maintaining full AM performance.

With this reserve power, an XL transmitter virtually has a spare module built in. They're hot-pluggable, which means you



benefit from unsurpassed system reliability and can maintain full operation even in the unlikely event that a power module requires service. Full duplication of critical low-level circuits further contributes to system reliability.

The XL series is available in power outputs from 12-60 kW. If you're considering a new transmitter, take a close look at Nautel. You'll find elegant design, rugged engineering, digital capability and, literally, power to spare.

For more information about our full line of AM and FM transmitters, visit us on the Web at www.nautel.com.



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World Radio History

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**THE NAB
RADIO
SHOW**

**Opening Night Party
Tuesday Aug. 31
9 p.m. to Midnight**

Take a trip back in time with the music of Blood, Sweat & Tears. The legendary '70s band — known for its fusion of jazz, rock and blues — will perform at the Opening Night Party at the Omni Rosen Hotel.

Blood Sweat & Tears had many hits including "You've Made Me So Very Happy," "Spinning Wheel," "Hi De Ho" and "Go Down Gamblin'."

The Opening Night Party is sponsored by BMI.

Here are three ways Eventide can help:

Consolidation brings market efficiencies, but also big headaches and challenges. It's essential for management to keep track of multiple stations. And keeping a legal record of what was said and when commercials aired is also more important than ever. Several groups have standardized on **Eventide Digital Audio Loggers**. Our economical VR204 records up to 550 hours on a tiny palm-sized cassette. VR204 records up to 4 channels simultaneously so you can keep tabs on the competition's spot loads, play lists and talent while you record your own stations. New!! Now Eventide loggers let you record/play in Hi-Fi for full "broadcast quality." Ideal for show replays, time zone delays, etc.

Eventide's **BD500 Broadcast Delay** makes talk shows run smoother and sound better, for less. The BD500's multiple dump feature divides the delay time into several "slices" so you're still safely in delay even right after dumping an offensive remark. It's the hassle-free talk solution... even when air talent is working without a producer. No other delay offers Eventide's high quality patented catch-up technology for clean audio combined with fast catch-up. And it's the only delay with optional digital inputs and outputs for new all-digital studios. Yet the BD500 costs thousands less than our previous model. See how much easier talk shows can be with Eventide's 4th generation BD500 Broadcast Delay.

Want to increase creativity without adding personnel? Add life to drive-time shows? Win new

advertisers with better station-produced spots? An **Eventide Ultra-Harmonizer**® brand effects processor really does all that. Designed specifically for radio and production, the new **DSP4000B Ultra-Harmonizer** features radio effects designed by production whiz Jay Rose. Hundreds of comic voices, sound effects, reverbs, pitch changers and more are instantly accessible at the touch of a button. Plus, the **DSP4000B** has superb Timesqueeze® time compression /expansion capability. Shorten a 60 second national spot to allow for a local tag. Squeeze or stretch a music bed to fit the spot. The **DSP4000B** has optional digital I/O to interface easily with digital editors and consoles. It's the radio effects box designed to bring stations more business and more listeners.

The bottom line: Eventide broadcast products are potent tools for today's radio. To learn more, talk to your broadcast distributor, call Eventide direct at 201-641-1200, or see our website, www.eventide.com.

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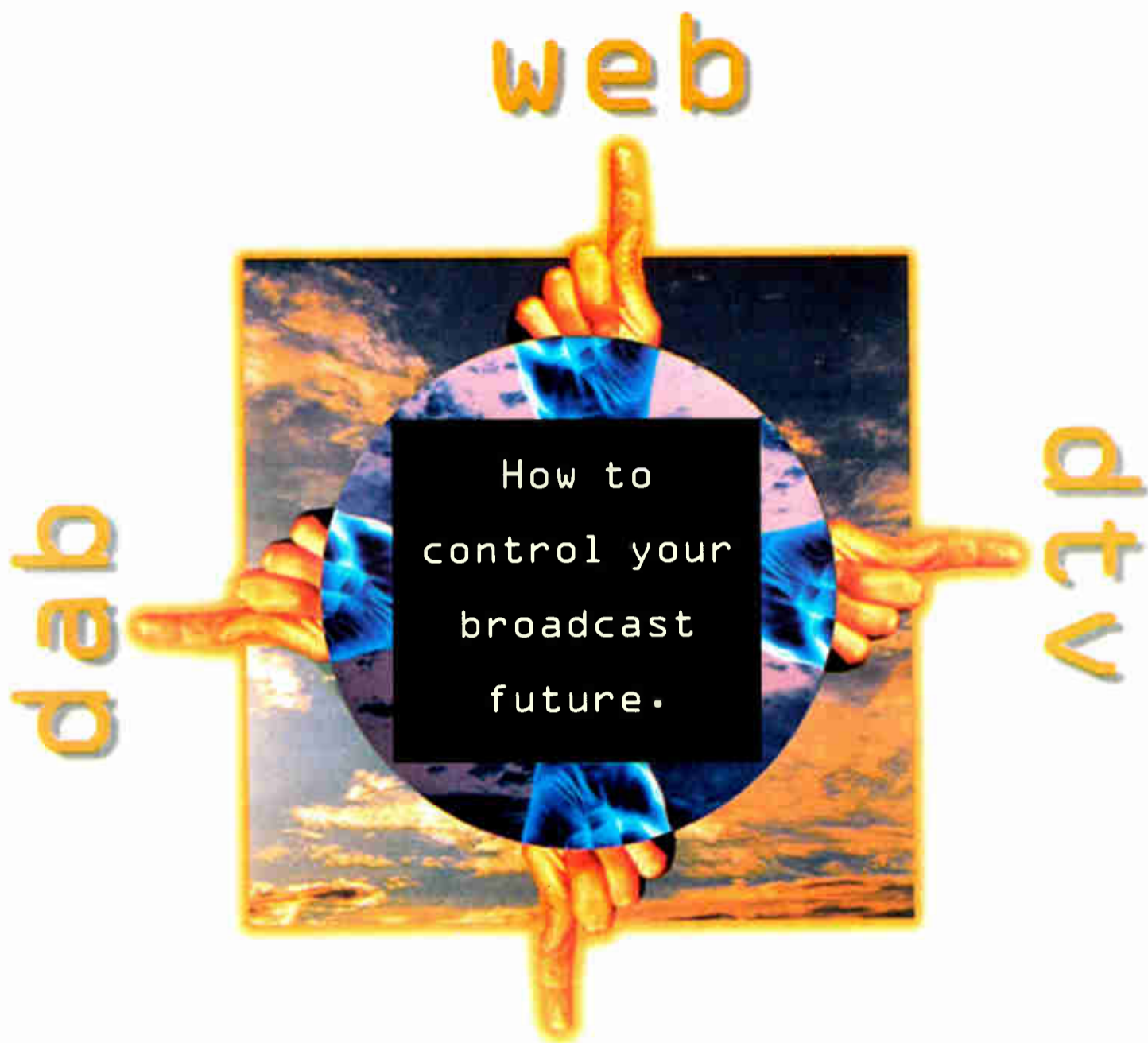
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OPTIMOD-6200

The future is sounding better already.

Even if you're still wondering where to go with digital broadcasting and webcasts, one thing is clear. To attract and keep a wider audience, DAB, DTV, and Web broadcasts need to overcome the limits of listener environments and deliver a clean, crisp, consistent sound.

The OPTIMOD - 6200 was created to solve the special needs of digital broadcasting—from punching through the noisy confines of cars to keeping loud commercials in check on TV broadcasts. Even on the Web, the 6200's multi-band processing greatly enhances intelligibility,



and delivers a clean, consistent sound that keeps users logging onto your site.

Which means that you can go wherever digital broadcasting opportunities knock, and not worry about the future. The OPTIMOD - 6200 has it under control.

THE SCIENCE BEHIND THE SOUND

In the real world, digital standards are still evolving. New encoding schemes may develop.

New services like IBOC digital shortwave may need narrow bandwidth. That's why Bob Orban's team built exceptional flexibility and future-proof features throughout the 6200. Its unique "look-ahead" limiter precisely controls peaks while optimizing the performance of your transmission codec—there's no clipper hash to waste precious bits. Whether your audio bandwidth



is 5HZ or 20kHz, the OPTIMOD-6200 sounds better in the real world where it counts.

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H A Harman International Company

New Products at Radio Show

► EXHIBIT FLOOR, continued from page 38 may lie ahead? Transmitter manufacturers are ahead of you.

Nautel Maine is introducing the XL12 AM transmitter, which the company says meets all USA Digital Radio IBOC compatibility issues. The 60 kW XL60 transmitter is capable of simultaneous IBOC and full-power AM transmission.

Andrew Corp. is rolling out S-Band and VHF DAB bandpass filters.

Two proponents of in-band, on-channel DAB will be at the show. USADR and Lucent Digital Radio will update attendees on their research efforts and

ISDN codec with an eye towards global compatibility.

"ISDN codecs do not work in Europe," explained Distler. "The two-wire interface in the U.S. is not compatible with the four-wire interface overseas. This one is." The Euro Nexus offers 7.5 or 15 kHz full duplex mono audio on ISDN.

Other products include the Marti GX-500 remote mixer and Talkport, designed for interfacing to analog and digital cellular telephones; and Prima, Fieldfone and Roadrunner codecs from Musicam USA.

The popular line of digital recorders and editors from 360 Systems will be on

"There are no comparable locations in the U.S.," said Edmiston, "but we do have some antennas in the Midwest at 10,000 feet and want them to last."

For programmers, Abratron will promote its PD Advantage software, including its InfoStream Internet radio ratings service. The company will also update attendees on its research into "personal monitoring" and its Personal Portable Meter project.

Decidedly low-tech but still novel, the

\$2.95 Guys (Smoothreads) are introducing custom promotional tee-shirts that can be compressed into tiny eye-catching packages. Shapes include hockey pucks, CDs and footballs.

A variety of broadcast equipment dealers will be on hand, including Bradley Broadcast and Pro Audio, Broadcasters General Store and BSW.

The exhibits are open Tuesday evening, Aug. 31, from 5 to 8 p.m.; Wednesday from 9 a.m. to 6 p.m.; and Thursday from 10 a.m. to 4 p.m.

For a complete rundown of new products on display at the show, see the listings that begin on page 44.



Marantz MiniDisc Portable

testing of IBOC systems.

Harris will show its Z CD FM transmitters and Intraplex synchronous transmission systems.

Continental Electronics plans to exhibit its PowerStar A10 and FM10 transmitters.

Remote telephone communication over ISDN and POTS lines remains a mainstay for radio. Among some of the newest telephone products to be shown at The NAB Radio Show is the Aeta Scoop Reporter II, which combines both an ISDN and a POTS codec in a single unit. Mark Kaltman, president of Aeta Audio Corp., said, "It is a lot less expensive than having two separate boxes."

The Scoop Reporter II offers an uninterruptible battery backup. Eight D-cells provide up to 2.5 hours of operation without having to reinitialize the codec after a power glitch. The Scoop also has a PC port for uploading preset profiles and downloading information on the unit's usage.

Kaltman is pleased to be coming to Orlando this year. Aeta products were exhibited in other booths during previous conventions. "It's our first show," he said.

Over at Telos Systems, the 2101 Talk Show system will be put up for display. This interfaces directly with T1 and ISDN phone lines, with expandability up to 96 lines assignable to multiple radio studios.

Comrex has something new for the field: the Envoy ISDN codec, with a look reminiscent of last year's traffic-stopper, the Vector POTS codec.

According to Lynn Distler of Comrex, "It is basically a Nexus (ISDN codec) in a Vector package. A lot of people liked the appearance of the Vector and began telling us, 'You know what we'd really like ...'" Another new product from Comrex is the Euro Nexus, another

display, including the new Short/cut '99 two-track digital audio editor. New features include gain edits, fades and cross-fades, and file interchange in .WAV, .BWF and .AIFF file formats.

The process

Audio processing moves into a higher plane with innovations from major players in airchain and production processors.

Cutting Edge is debuting two new software modules for the Omnia.fm processor. The "Hot" module provides loudness for urban, rock and CHR formats, while the "Veris" module combines loudness with signal purity, appropriate for jazz and classical-formatted stations.

Eventide is coming to the fall show to introduce "Orville," a multichannel effect processor with two audio engines and 24-bit/96 kHz response.

Orban will promote upgraded version 2.0 software for the Optimod-AM 9200 processor, with new presets for HF short-wave broadcasting that can also be used to extend the coverage of AM band broadcasts during low-power operations.

Orban also will show its Optimod 6200 for Webcasting.

T-connections and T-shirts

Antenna technology may not be as glamorous as computers, but it moves ahead with the introduction of a more reliable FM 10 Series from SWR: an antenna borne out of necessity for survival in cruel environments.

"We needed an antenna that would survive Iceland," said David Edmiston, sales manager for SWR. "In Iceland, we had 200 mph winds and needed an antenna that would not fail."

SWR moved from constructing copper Tee connections to sandcasted bronze Tee connectors. The upgrade provided the structural integrity needed to survive the harsh Icelandic conditions.

DON'T MISS AT THE NAB RADIO SHOW

New Sessions to Check Out

Among the new sessions and events at this year's Radio Show are the following:

• **Consolidation By Design** — An opportunity to review your stations' current operations. Tuesday Aug. 31, 3:30-4:45 p.m.

• **Creating the Magic: The Disney Approach to Customer Loyalty** — A look-see at Disney's philosophies and strategies. Thursday Sept. 2, 10:30-11:45 a.m.

• **Charges, Counter-Charges & Lowest Unit Charges: Political Broadcasting 2000** — A radio station review just in time for the elections in 2000. Topic include equal time, lowest unit charge, reasonable access, and the rest of the FCC's political programming rules. Friday Sept. 3, 10:30-11:45 a.m.

• **Utility Deregulation: Watts It All About** — How will your radio station be affected? Get power-plan pointers from the experts and learn how to save money. Friday Sept. 3, 10:30-11:45 a.m.

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Combined 3 pole XLR receptacle and 1/4" phone jack for balanced line or instrument inputs in one connector. 30% shorter than original in horizontal and vertical, PC mount and new solder cup versions. The jack is available in mono, stereo or stereo switching. The Combo Series is digital capable and comes in locking and non-locking versions.



YOU'RE

A Series/B Series XLR Receptacles

The A Series is made from high-impact glass reinforced UL94V-0 proof plastic with hard gold plated contacts for long life. The B Series has a metal housing with mating shell contacts at the entrance to provide complete RF protection. Females have two grounding options available.



Power Con A.C. Connector System

This new A.C. connector comes with a fast and easy locking system, 20A rated current capacity, chuck type strain relief and solid contacts with screw type terminals. Power Con meets all prevailing safety standards.



NEW! NP*RCS Compact 1/4" Right Angle Plug

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Circle (51) On Reader Service Card

World Radio History

Small Markets, Big Decisions

Chris Joaquim

One could argue that small-market broadcasters face an array of challenges that is more daunting than ever.

Yes, the healthy economy lifts all boats. But these owners and managers must get the most out of limited budgets, find and maintain experienced staffs and keep pace with the dizzying evolution of technology.

Some nine sessions on these and other pressing topics confronting these broadcasters are part of The NAB Radio Show Small-Market Track.

'Mouse that roared'

A panel of promotions experts will provide creative ways to increase cume and land new clients in "The Mouse That Roared: Small-Market Promotions," on Wednesday afternoon.

"We named it 'The Mouse That Roared' because smaller markets tend to have big promotions ideas," said panel coordinator JoAnna Alexander, general sales manager for KDCD(FM) in San Angelo, Texas.

Panelists are Lee Davis of Cub Radio Inc., Priority Communications President Jay Philippone and Susan Pickering, general manager, WKPE(FM), Orleans, Mass.

"Sometimes we get so caught up trying to come up with these huge, sophisticated promotions," Pickering said, "that we lose sight that the simple, low-cost ideas often work just as well."

Although smaller stations have smaller budgets, or in some cases, no budget, that isn't necessarily a bad thing, Philippone said.

"Without huge budgets, you have to be more creative, but it makes for more interesting promotions," he said.

The small-market broadcaster is not without the advantages a big group enjoys, either.

Philippone's Priority Communications, owner of five small-market stations, said his group networks with other small-market stations by getting involved with state associations and "idea banks."

"There are thousands of great ideas out there," he said. "Finding good promotions is not a problem."

Economics 101

In "Developing and Keeping Management Talent in a Small Market," moderator Ken MacDonald, owner of Saginaw, Mich.-based MacDonald Broadcasting, said the key to keeping good hires is "basic economics" — a competitive salary and a better standard of living.

The Wednesday afternoon session will show how small-market stations can tout unique advantages over their bigger, deeper-pocketed counterparts. Although these markets may not be able to offer on paper the higher wages a Chicago or Los Angeles station could, after factoring the lower cost of living found in smaller markets, the salary gap closes.

MacDonald and his panel also will address the obstacles in attracting an experienced on-air and management staff when a station is the only one in town.

"We have worked hard at empowering our employees by involving them in strategic day-to-day planning," said MacDonald. "And, I think we've been fairly successful."

Getting the biggest bang for the buck is the basis for the session "How to Sound Big Without Having a Big Budget," on Thursday morning.

This session will provide ways to achieve the promotional and presentational impact needed on a limited budget.

Limited budget

Moderator Anthony Iannini is program director and operations manager for WYUS(AM) and WAFL(FM) in Milford, Del., owned by Delmarva Broadcasting.

Iannini said small-market broadcasters are limited not only by budget, but also in talent availability and promotional consideration from the record labels.

"When you're way down there in market size, it's challenging to get access to the things the big boys — the New Yorks, the Bostons — have."

Iannini combats the inequity by "maintaining relationships and networking."

Stations of every size are being forced to be more creative, but it is a matter of survival with small-market stations.

"It doesn't matter if you have 50 pairs of Ricky Martin concert tickets, or one pair, it's what you do with it," he said. "We are being forced how to turn basically nothing into something larger than life."

Digging for dollars

Small markets have more than promotional budgets to worry about, of course.

In "Mining for National Business in Small Markets," on Thursday morning, three panelists will share perspectives on

getting their share of national accounts.

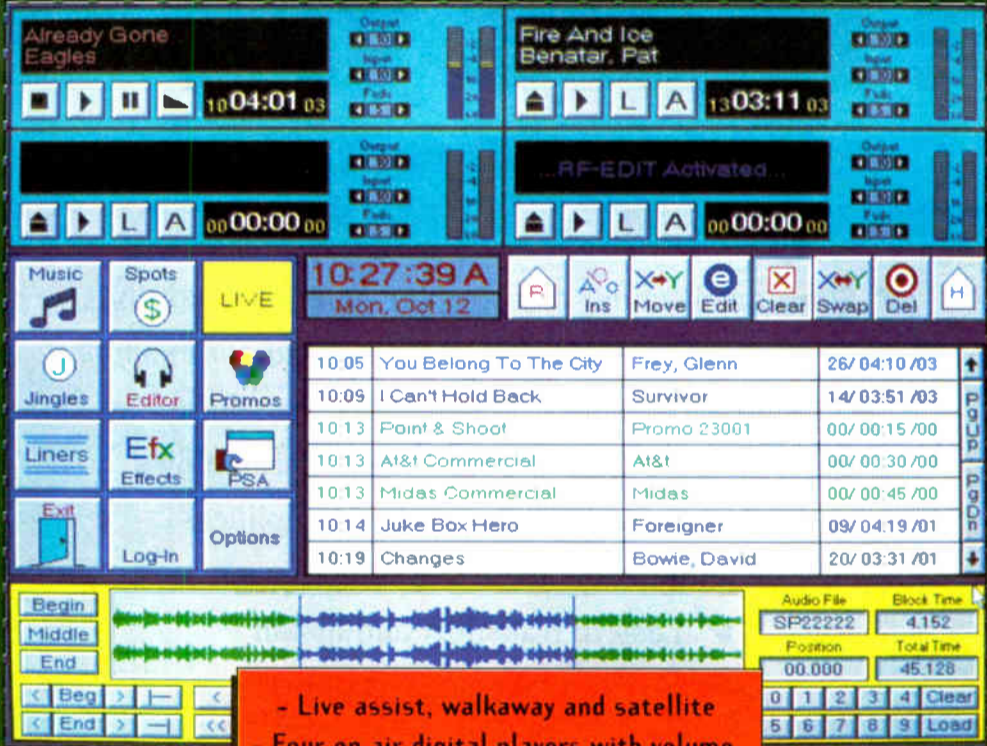
Moderated by JoAnna Alexander, the panel includes Jo Guck Bailey, KXLP(FM) and KYSM(AM), North Mankato, Minn.; Chris Rolando, KZUL(FM), Lake Havasu, Ariz.; and Mike O'Brien, vice president, sales, Bliss Communications Inc.

O'Brien said he will discuss the similarities shared between local and national accounts.

"They both look for good investment value — a high frequency, as well as an added value that makes the investment more meaningful, such as a promotional outline," O'Brien said.

Other notable sessions in the track include "The Manager's Management System" on Wednesday morning, and a "Small Market Radio Managers Roundtable" on Friday morning.


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RADIO SHOW EXHIBITORS

These companies will exhibit at The NAB Radio Show in Orlando, Fla. Information was provided to RW by NAB and by the exhibitors.

A-C

\$2.95 Guys (Smoothreads) 631
Intro: Custom Printed T-shirts, heavyweight 100 percent cotton T-shirts, are printed up to six colors; Compressed T-shirts, in a variety of 15 molds, will compress your T-shirt into a custom shape, including football, hockey puck, CD, film reel, video, cassette and business card.

360 Systems 1351
Intro: Short/cut '99 two-track digital audio editor records to an internal hard disk or

optional external removable media. Each track can be independently recorded and edited with new features that include gain edits, fades and crossfades and file interchange in .WAV, .BWF and .AIFF file formats; TCR4 four-track digital audio hard disk recorder is designed to replace DAT machines requiring synchronous record/playback and features 24-bit audio quality, high-density removable disks, large amounts of internal hard-disk storage, time code implementation and VTR emulation; TCR8 eight-track digital audio hard-disk recorder features 24-bit audio quality, high-density removable disks, large amounts of internal hard-disk storage, time code implementation and VTR emulation.
Also: Instant Replay 2.0; DigiCart/II Plus.

A-Ware Software Inc. 215
Intro: MusicMaster C/S-Win 32-bit client-server music scheduling system for Windows NT and Windows 2000 featuring open connectivity, user-defined databases and scalable scheduling rules.

Aeta Audio Corp. 320
Intro: Scoop Reporter II combines POTS and ISDN and offers an uninterruptible internal battery backup, PC programmability and a three-channel mixer; Scoop II codec solution combines POTS and ISDN in a single 2RU unit and features auto-sense incoming POTS or ISDN; HIFI Scoop 3, G.722, J.52, Layers II and III features two, four or six B channels, full duplex operation, mono, dual/mono, stereo, joint stereo, AES/EBU

Accuracy in Media 432
Intro: The Clinton Legacy: Media Monitor radio commentary; Radio Talk Show Directory.

I/O, AUX channel, alarm and remote I/O.

Mark Kaltman, Pres.
 75 Fleetwood Dr.
 Ste. 200
 Rockaway, NJ 07866

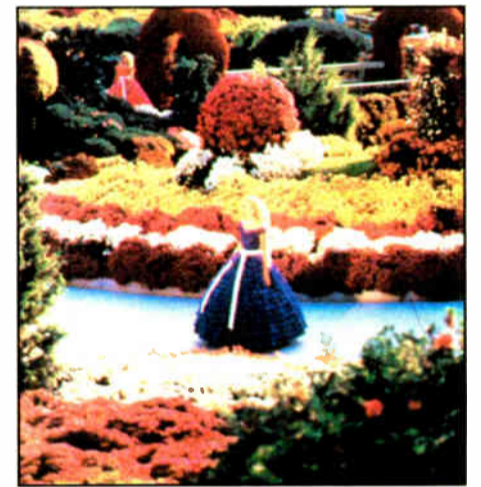
Phone: 973-659-0555
FAX: 973-659-9555
Web site: www.aetausa.com

Air Force Advertising 353

Airdate by TPI 208

Airplay Monitor 1412

American Media 1506



Cypress Gardens

Andrew Corp. 705
Intro: S-Band DAB bandpass filters for critical and non-critical mask applications, providing high rejection, low loss, temperature stability and power availability up to 2 kW average with waveguide or coaxial connectors; Low Power VHF DAB bandpass filters, a complementary filter to the 3 kW version that features compact sizing, excellent rejection and loss characteristics, power availability up to 1 kW and availability in six and eight sections; Field Adjustable Directional couplers in line sizes up to 6-1/8-inch EIA and saddle clamp versions, all offering directivity of 32 dB+ and coupling values of 30-70 dB with built-in 10 W termination and TNC, BNC, SMA and N-type output connectors.

Also: HELIAX high-performance air-foam-dielectric coaxial cables and elliptical waveguides; HRLLine, MACXLine and WIDELine rigid line components; Inner Only inner conductor replacement systems; passive RF products, systems and services and a full line of installation accessories.

Robin Christ, Acct. Mgr. Broadcast Sales
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Web site: www.andrew.com

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- ✓ Double the module MTBF
- ✓ Occupies less floor space
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NEW FM-10S

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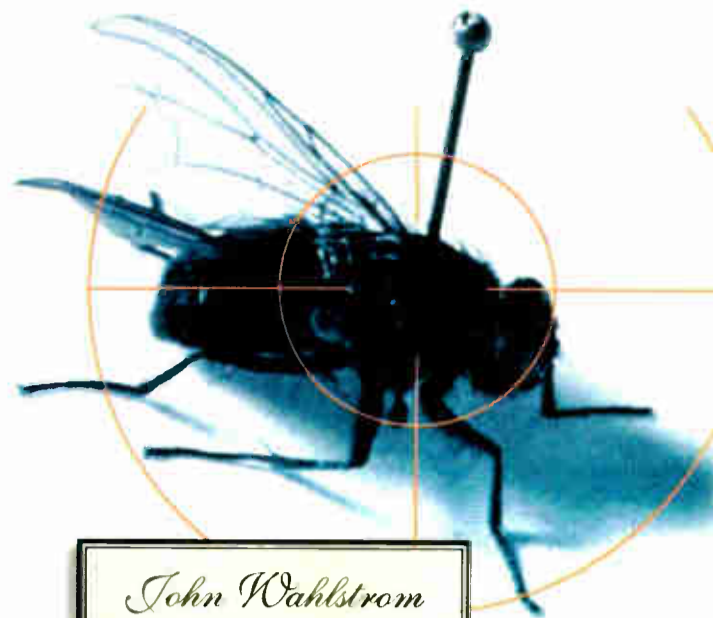
www.bdcast.com
 or (888) 232-3268



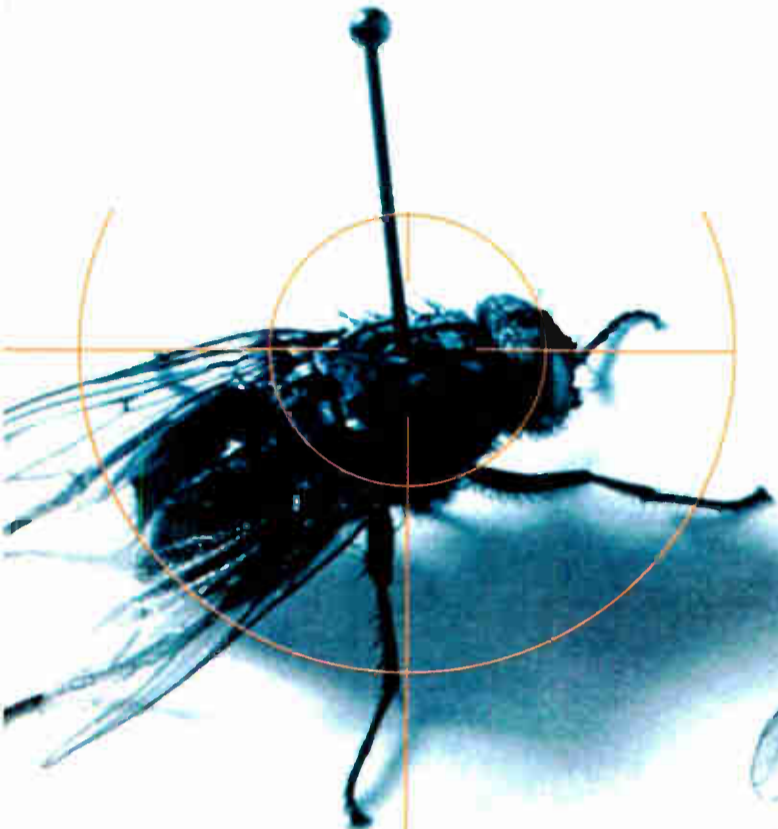
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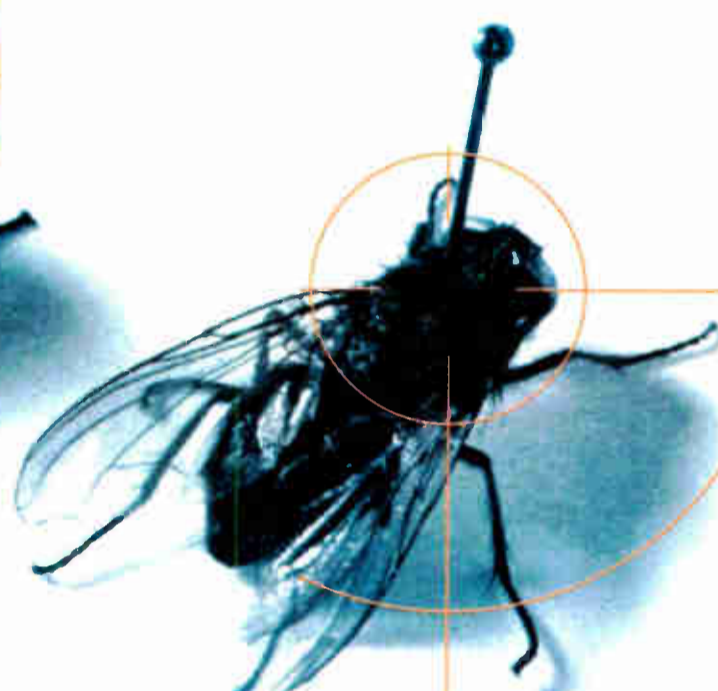
Their biggest regret was not talking with Dalet...



John Wahlstrom
Engineer 1996-97



Bruce Wodder
General Manager 1998-99



Steve McAllister
Program Director 1997-98

ME/ACTON

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► LISTINGS, continued from page 44

Antenna Concepts Inc. 1441

Intro: Ultra Tracker II puts more than 99 percent of power in main lobe, helping to reduce multipath and eliminate downward radiation, all with higher gain.

Apex 1335**Aphex Systems Ltd.** 207

Intro: FM PRO Model 2020 processor and Model 1788 eight-channel remote control mic preamp.

Arbitron 707

Intro: PD Advantage software for program directors, including InfoStream, Internet radio ratings service; MapMAKER software that ranks listening by retail trading areas; Personal Portable Meter, an electronic meter for radio, television, cable and streaming media audience ratings.

Also: Arbitron provides radio ratings and local consumer research in 270 markets as well as software for sales and programming.

Armstrong Transmitter Corp. 1300

Intro: FMX-300 frequency agile, solid-state 300 W exciter featuring five to 300 W output, VSWR foldback and automatic power output control for use as a replacement driver/exciter for high-power FM or as a low-power standalone transmitter.

Also: T series of FM single tube grounded grid transmitters, one kW to 30 kW; SC series solid-state FM transmitters 300 W to 10 kW; STL systems; FM antennas.

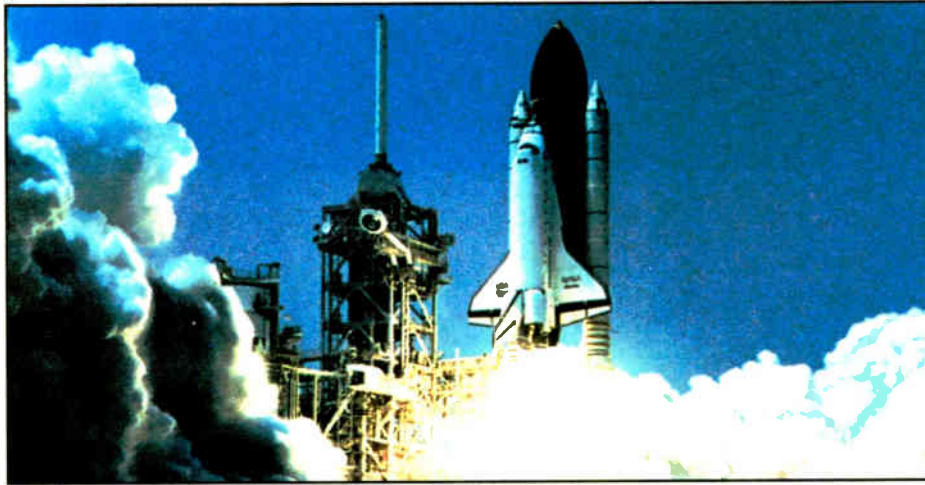
Arrakis Systems Inc. 639**ARS Electronics** 726**ATI-Audio Technologies Inc.** 1315

Intro: Nanoamp Series ML200 dual microphone to line amplifier offers servo balanced line outputs +22 dBm, front switch selection of phantom power, hi-lo preamp gain, LED peak flasher and XLR inputs and outputs; Nanoamp Series DMA103 microphone distribution amplifier features one microphone input to three servo balanced line outputs at +22 dBm, dip switch selection of phantom power and preamp gain for high output microphones and line level inputs, master gain control, independent output level trimmers and XLR input and outputs; Nanoamp Series DA103 distribution amplifier with one line-level input to three servo balanced line outputs at +22 dBm, master gain control, independent output level trimmers and individual two-piece quick change Phoenix type connectors, one set for each input and output.

Also: Digital and analog audio distribution systems; metering and monitoring equipment; mono and stereo ENG field, studio and van mixers; AC and battery powered balance boxes, microphone, line and headphone amplifiers; on-air six, eight and 12 mixer consoles; and Press Box distribution amplifiers.

AUDEMAT Inc. 442

On Display: A range of complementary products dedicated to the design and predictive modeling of radio systems from 30 MHz to 100 GHz for radio and TV broadcast, mobile radio, LMDS, wireless local loop, DAB, DTV, microwave networks and cellular paging; the Audemat MC3 Series is a mobile FR field strength monitor that can automatically monitor and measure up to 99 stations, available in AM, FM and TV configurations; the Audemat Datacaster Universal Programmable Data Encoder, programmable by UECP 5.1 and USEP standards.

Audio Follow 1519

Kennedy Space Center is within easy reach of Orlando.

Audio Precision 1313

Intro: Portable One Plus Access audio test set for broadcasters that includes a printer port and memory for 30 stored tests with test results; Portable One Dual Domain 96k includes all features of Portable One Plus Access in addition to 96k digital domain audio and interface measurements; System Two Cascade extends the capabilities of the System Two audio test set with six times more DSP power and generation and measurement of 96k and 192k digital audio signals.

Audioarts Engineering 525

Intro: RD-12 modular digital audio console accepts analog and digital signals with simultaneous digital and analog outputs, three stereo busses, A/D and sample rate conversion, machine control and digitally created mix-minus via superphone module; R-17 modular small footprint audio console with two stereo busses, machine control and high audio quality.

Also: R-60; R-5; SDA-8400.

Auditronics Inc. 525

On Display: 2500; Nustar; Comet.

Autogram Corp. 1341

Intro: Pacemaker I1K features a bi-modular con-

cept from 14 channels, 40 inputs to 24 channels, 60 inputs, hot swappable modules, LED switches, universal power supply, no calibration or adjustments; Solution-20 rack-frame multifunction interface system with an option customizing range from a simple relay interface to a 64-stereo input, 8-stereo output digitally-controlled routing mixer. Also has a self-contained bi-polar power supply and optional cards.

Also: Pacemaker series; RTV with live assist; rotary pot standard IC/AC series; Mini Mix series.

BIA Companies 935

Intro: MEDIA Access Pro broadcasting database software for analyzing revenues, ratings, owner-

music scheduling software for Windows 95/98/NT, now in the final beta test phase and free to all qualified stations.

Also: The Traffic C.O.P. for Windows; The Music Librarian.

Broadcast Electronics Inc. 717

On Display: FM-10S 10 kW solid-state FM transmitter; AM-1A 1 kW solid-state AM transmitter; FM-1C1 1 kW solid-state FM transmitter; FM-20T 20 kW FM transmitter; Predator digital exciter; AudioVAULT digital audio storage system; NewsBoss newsroom management system; AudioPoint router switch; Marti brand RPU's and STL's.

Broadcast Products Inc. 741**Broadcast Software International (BSI)** 314

Intro: Wavestation 3.0 digital automation for Windows 95, 98 or NT; Wavecart 3.0 on-screen cart machine; Stinger 2.0 instant audio player providing 256 audio files instantly available on-screen.

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888-274-8721

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E-mail: info@bsiusa.com
Web site: www.bsiusa.com

Audio Precision 1313

Intro: Portable One Plus Access audio test set for broadcasters that includes a printer port and memory for 30 stored tests with test results; Portable One Dual Domain 96k includes all features of Portable One Plus Access in addition to 96k digital domain audio and interface measurements; System Two Cascade extends the capabilities of the System Two audio test set with six times more DSP power and generation and measurement of 96k and 192k digital audio signals.

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Intro: RD-12 modular digital audio console accepts analog and digital signals with simultaneous digital and analog outputs, three stereo busses, A/D and sample rate conversion, machine control and digitally created mix-minus via superphone module; R-17 modular small footprint audio console with two stereo busses, machine control and high audio quality.

Also: R-60; R-5; SDA-8400.

Auditronics Inc. 525

On Display: 2500; Nustar; Comet.

Autogram Corp. 1341

Intro: Pacemaker I1K features a bi-modular con-

ship, transactions, demographics and technical statistics with daily Internet updates available; RFCAD signal mapping software application for planning, designing and analyzing wireless systems, offering contours, terrain profiles and high-resolution propagation results; BIA's "Investing In" broadcasting reference books that include the company's market reports, ownership files, year-books and state of the industry.

"Bob & Sheri" 330

Intro: "Bob & Sheri" is a female-targeted morning show designed to dominate the 25-54 demo and features edgy, conversational adult humor combined with listener interaction and celebrity guests with network-supplied marketing support and satellite gear.

Bradley Broadcast and Pro Audio 1336

Bradley is a dealer of broadcast, professional audio, RF and audio-for-video products for radio, TV, network, government, educational and religious organizations.

British Information Services 1239**Broadcast Data Consultants** 452

Intro: The Music Director II for Windows is

Broadcast Supply Worldwide (BSW) 925

BSW is an international distributor of professional audio and broadcast equipment representing hundreds of manufacturers and offering experienced sales help, special sale pricing and a free 176-page catalog during the show.

Broadcasters General Store 1233**Burk Technology** 939**"C.A.R. Show, The"** 339**CBSI/Custom Business Systems Inc.** 1029

Intro: DeltaFlex III business software features revenue maximization, increased A/R flexibility and a number of group-friendly features; Digital Universe digital audio delivery system options now include satellite capture directly into the PC network, audio routing via software and DVT (dynamic voice tracking); Sales Analyzer business software features more report detail and viewing options for traffic data.

Also: CBSI business management software, including the Premier, Classic and Elite packages; Digital Universe digital audio delivery software.

See LISTINGS, page 50 ►

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- Comprehensive analog audio analyzer
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Circle (46) On Reader Service Card

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Circle (47) On Reader Service Card
World Radio History

► LISTINGS, continued from page 46

Central Tower Inc. 1410

CGA Inc. 239

On Display: Prize insurance for promotions.

Circuit Research Labs Inc. (CRL) 1311

CRL Systems manufactures a line of audio processors including limiters, compressors and controllers for AM, FM, TV and shortwave for every budget and format: Modular Series, Amigo Series and digital products.

Coaxial Dynamics 1551

Columbine JDS Systems Inc. 913

Intro: ColumbineNet Internet browser-based software system is designed to support and integrate information management activities and day-to-day station operations via the Internet or a WAN, runs on a PC via an Internet browser, has function-

based modules for program acquisition, planning, scheduling, traffic, on-air automation, reconciliation, electronic invoicing, A/R, A/P and G/L and can be used for a single or multistation operation; Spotdata is an electronic invoicing system for broadcast and cable companies that enables users to send their electronic invoices to an industry clearinghouse that sorts them by ad agency and then notifies the agencies by e-mail within hours that the invoices are ready for download; Sales Analysis Plus identifies and reacts to rapidly changing sales environments and provides access to past, present and future sales information displayed in five different categories.

Also: Columbine sales traffic system; JDS 1000; Skim Plus.

Communication Graphics 1030

Intro: Manufacturer of screen-printed window decals and bumper stickers that offer full graphics and logo design capabilities.



The citrus industry is a vital part of the Florida economy.

Computer Concepts Corp. 517

Intro: Visual Traffic 32-bit Windows NT-based traffic and billing system with import/export flexibility, pre-defined and user-definable management

reports and the ability to calculate commission rates, splits and sales goals. Maestro Windows-based digital audio hard disk system with enhanced features and functions including graphics and user-friendly options; ReeLogger digital audio logger capable of storing a month's worth of a station's audio without user intervention, while offering flexibility in accessing audio log files via local area network, remote access and the Internet.

Also: NewsRoom electronic news center; Composer; VoiceTracker; and Arranger.

Comrex Corp. 919

Intro: Envoy ISDN codec provides 7.5 kHz or 15 kHz low delay, bi-directional mono audio on ISDN, includes a full-featured mixer and is compatible with other manufacturers' G.722 ISDN codecs; Euro Nexus, the international version of the company's Nexus ISDN codec, delivers 7.5 kHz or 15 kHz full duplex mono audio on ISDN while offering ease of setup and use.

Also: 15 kHz Vector POTS codec; HotLine POTS codec; Nexus ISDN codec and other digital audio codecs; Buddy Remote Studio; Mix-Minus Bridge; One-line frequency extender; telephone couplers; Cue System for wireless IFB.

Kris Bobo, VP Development
65 Nonset Path
Acton, MA 01720

Phone: 978-263-1800
800-237-1776

FAX: 978-635-0401

E-mail: info@comrex.com

Web site: www.comrex.com

Continental Electronics Corp. 417

Intro: PowerStar A10, a 10 kW AM transmitter; PowerStar F10, a 10 kW FM transmitter; 802D1, a digital FM exciter.

Also: PowerStar F1; 816R series FM transmitters.

Creative Radio 603

On Display: Custom written retail jingles; station ID jingles; "buy-out" production music libraries; sweepers/liners; and telemarketable revenue builders.

Crown Broadcast/Crown International 732

CUE Corp. 1117

Cutting Edge 1417

Intro: HOT software module for Omnia.fm offers added audio processing versatility using a new algorithm to provide loudness for rock, urban, CHR formats and more; Veris software module for Omnia.fm combines loudness with signal purity by replacing clipping with limiting algorithms for soft jazz, classical and similar formats; Omnia Toolvox microphone processor works harmoniously with on-air processing and includes AGC, compressor, noise gate, phase rotation, flexible HP/LP and shelving filters, parametric EQ, unique de-esser, Waves reverb.

Also: Omnia platform of audio processors for FM, AM, DAB and Internet; see also Telos Systems.

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- Small Market Management Development ■ Legislative & Regulatory Issues ■ Webcasting ■ Format Forums ■ Small Market Promotions
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See LISTINGS, page 51 ►

▶ LISTINGS, continued from page 50

D-F

Dalet Digital Media Systems USA Inc. 1325
Intro: Dalet5.1 digital automation software features integrated music scheduling support for linear audio, advanced title management, Web publishing and powerful editing tools; TeamNews news and broadcast management system is a set of integrated tools that assist in acquisition, production, scheduling and broadcasting of news.
Also: TeamRadio traffic management; Interweb Internet distribution.

Dame-Gallagher Networks LLC 1553
Intro: The Mike Gallagher Show, a 100 percent barter, daily three-hour talk show.

Datacount Inc. 1038
Intro: Datacount 32 traffic and billing system for Windows 95/98/NT with flexible contract entry support of packages/group sponsors/multiple stations, management reporting, multistation reporting, calendar and financial year reporting and support of intranet reporting.
Also: DARTS (Datacount accounts receivable and traffic system); DARTS ELII (entry level version); Super Log traffic and billing software.

Dataworld Inc. 1001
Intro: Internet Engineering Services, a catalog of engineering studies available via an Internet connection; Broadcast Coverage Map Books, redesigned AM, FM, TV map books; DataXpert on the Internet, available on a monthly subscription/per usage rate and featuring U.S. broadcast (AM, FM, TV/LPTV) station contact data, ownership data, engineering data, FCC action history and thumb-nail coverage maps.
Also: Full color custom mapping (predicted contours, RSL coverage, Longley Rice signal level), RSL interference coverage; ethnic/demographic and population display; FLAG FCC monitoring service; DataXpert CD-ROM software, printed data and engineering reports.

Decisionmark 214
Intro: proximityradio.com, an Internet-based tool to visualize your station signal area, overlay demographic variables and perform market research with ease; broadcastcounts.com, a Net tool used for demographic analysis.
Also: Proximity 3.0, CensusCounts98, AntennaSelector.com, iwantmyfreetv.com, proximitytv.com, WaiverTV and getawaiver.com

Dielectric Communications 1101
On Display: Single and multistation antennas, filters, combiners, transmission line and related RF equipment.

DMI Inc. 440

Dr. Ellen Kenner 101

DTA Carlson 1543
Intro: Provides architects and engineers to telecommunications and systems integrators and professionals in the entertainment industry, serving clients in nine U.S. cities.
Also: Real estate services; information technology; facilities and infrastructure design and construction services; systems integration services.

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DTN Weather Center 450
Intro: DTN Broadcast Weather, a satellite-delivered weather and news information ser-



Busch Gardens

vice that provides instant access to local, regional and national weather forecasts and information, along with NOAA Warnings

Alerts and Learfield World National News Summary, with no online, access or other phone charges.

Duncan's American Radio LLC 1328

Duro Sales & Games 231
Intro: Stock and custom wheels, free-standing models and table stands; Carnival games for all ages; Raffle drums in four sizes.

Eagle Marketing Services Inc. 307

Energy-Onix Broadcast Equipment Co. Inc. 206
Intro: Legend C solid-state 1 kW FM transmitter features retractable drawers, switching power supply drawers, "stealth" exciter and full-filtered air cooling system; Pulsar solid-state, low- and medium-power AM transmitters from 250 to 10,000 W featuring PDM technology and plug-in power amplifiers.
Also: Solid-state FM exciters, 10 to 300 W; one-tube FM transmitters from 4 to 50 kW; shortwave
 See LISTINGS, page 52 ▶

Digital Done Right



The Logitek Numix is a full featured digital console, with up to 42 faders, from the new leader in digital broadcast console technology.

Each modular input wedge features a huge display screen above six P&G faders. Input routing, bus assign, stereo mode, pan and EQ settings are clearly shown for each channel. We even provide a separate timer for each input and space for automation systems to write song titles.

These consoles have four mix busses, talkback, mix-minus, pan, mute, snapshot automation and an amazingly flexible remote control system. Optional features include motorized faders, EQ, dynamics and talk show delay. Of course both analog and digital ins and outs are handled with ease.

Would you like to know more? Just call your favorite dealer or one of our sales engineers.

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Visit our home page at www.logitekaudio.com for more information

► LISTINGS, continued from page 51
transmitters from 5 kW to 50 kW; and STL and RPU equipment.

Entertainment Marketing Group 232

ERI - Electronics Research 1326

Intro: Model 430 multiplexed FM isolation transformer is a high-power ISO coupler to permit a multiplexed FM antenna to be mounted on an AM tower.

Eventide Inc. 1434

Intro: Orville Harmonizer effects processor is a multichannel, dual-engine, 24 bit/96 kHz effects processor featuring "anything-to-anything" routing via four analog and four AES/EBU digital I/Os with UltraShifter format correct pitch-shifting and multichannel reverbs; VR208HF hi-fi logger records up to eight channels for up to 24 hours on a single 125M DAT and features remote air-check and high sam-



The Orlando Science Center

pling rates that allow playback right to air.

Also: BD500, BD941/BD942 broadcast/obscenity delays; DSP4000B broadcast/production Ultra-Harmonizer; DSP4000, H3000B+, H3000B/LT Ultra-Harmonizers; VR204 four-channel digital logger; and VR240

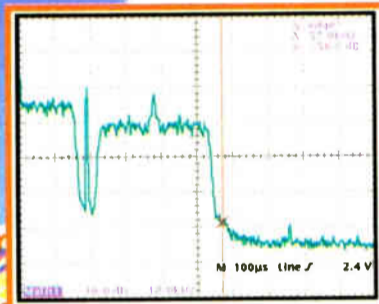
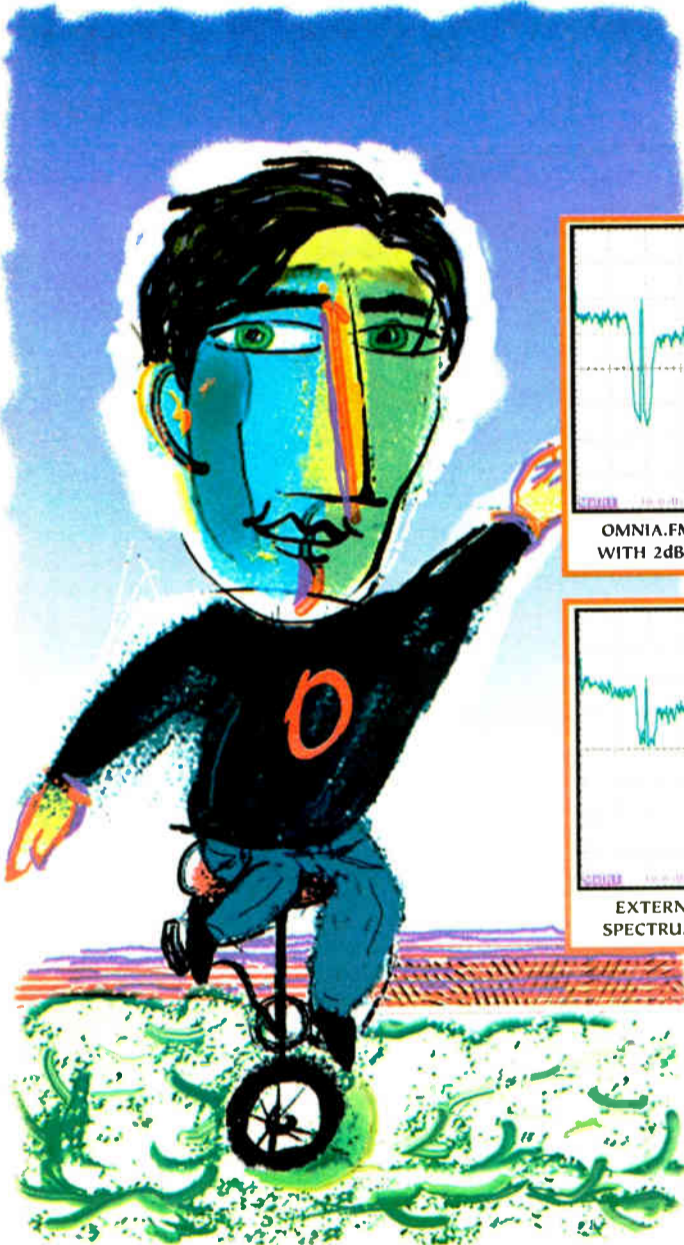
and VR320 digital loggers.

EWTN AM/FM Radio 303

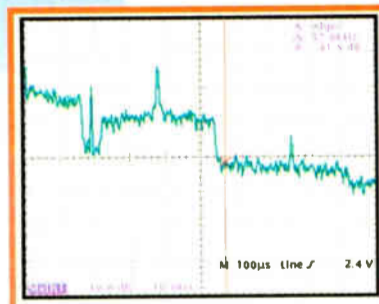
On Display: EWTN Radio provides free religious programming that attracts listeners from all faiths while serving the large Catholic audience.

COMPARE

When you compare digital audio processors, it's not apples to apples. Why? Because only the Omnia.fm gives you adjustable composite clipping, a powerful technique used by thousands of broadcasters for PD-pleasing loudness-loudness that can't be achieved in any other way, no matter which processor you're using.



OMNIA.FM COMPOSITE SPECTRUM WITH 2dB OF COMPOSITE CLIPPING



EXTERNAL COMPOSITE CLIPPER SPECTRUM WITH 2dB OF CLIPPING

You can have this power without worry: The Omnia.fm includes a precision digital composite low-pass filter which eliminates interference to subcarriers (including RDS) from clipping by-products. And since the pilot is added after the clipper, it remains unharmed.

Sure, you can tack on an external composite clipper to other digital processors. But with the Omnia.fm's integral composite clipper, operation can be controlled remotely and included in stored presets. And because of the Omnia.fm's unique, non-aliasing final limiter, you have rock-solid peak control, even without composite clipping. Put it all together and you have the Omnia.fm's clean spectrum, loud, punchy sound and *absolutely no digital grunge*.

Make your own comparison and you'll find that the Omnia.fm provides unmatched performance, with or without composite clipping. Only the Omnia.fm gives you a choice. And only the Omnia.fm gives you a free 60-day demo with a money-back guarantee*.

Here's how: The test signals were generated by a Delta Electronics SNG-1 (Stereo Noise Generator); spectrum analysis was performed with a Tektronix TDS-744A Digital Scope in the FFT mode. The top graph shows the spectrum out to 100kHz of the Omnia.fm with its built-in, all-digital composite clipper and composite low-pass filter. The bottom graph shows a different processor combined with an external composite clipper. Both composite clippers were set for 2dB of clipping. Notice in the bottom graph the significant harmonic energy in the SCA region as a result of composite clipping.

For a complete technical report, call us for a copy of our paper entitled "Omnia.fm: An Engineering Study." Or visit our web site at: www.nogrunge.com.


CUTTINGEDGE



Broadcaster's General Store
2480 SE 52nd Street Ocala, FL 34480
Tel: +1 (352) 622-7700 Fax: +1 (352) 629-7000
e-mail: bgs@mercury.net

EXCL Communications 651

Intro: Radio Romantica, currently on five stations, is a turnkey Spanish language, adult contemporary radio format localized for each market; Super Estrella, currently on one station, is a turnkey Spanish language, contemporary hit radio format localized for each market; Radio Tricolor, currently on eight stations, is a turnkey Spanish language, Mexican regional radio format localized for each market.

Jeffrey Liberman, VP Operations
2905 S. King Rd.
San Jose, CA 95122

Phone: 408-274-1170
FAX: 408-274-1818

E-mail: jliberman@exclradio.com

FamilyNet 1017

Intro: "At A Glance" PSA series offers 90-second spots on CD with topics ranging from "How to Make Good Choices" with Bob Reccord to "Your Health Matters" with Doug Kaufmann and "Reflections" with Jon Rivers.

Also: "Powerline," "Country Crossroads," "MasterControl," "On Track," and "The Baptist Hour."

Lisa Young, Radio Mktg. Distributor
6350 West Freeway
Fort Worth, TX 76116

Phone: 817-570-1416

800-266-1837

FAX: 817-737-7853

E-mail: lyoung@namb.net

Web site: www.namb.net/mtg/radio.htm

Fidelipac Corp. 931

On Display: Dynamax MX series analog broadcast consoles; broadcast audio and Dynamax digital broadcast consoles; DCR digital cart machines; CTR analog cart machines; NAB broadcast cartridges; studio warning lights, and handheld and tabletop magnetic erasers.

Film House Inc. 1034

FirstCom Music 623

On Display: The Personal Production Library, offering 11 libraries and more than 1000 CDs of music for any production.

Fun Industries Inc. 347

Intro: Traveler Cash Cube Money Machine, "go inside and catch the flying money," is portable and works well with remotes.

G-I

Gateway Broadcasting & Internet Inc. 248

General Mills Radio Productions 1247

Gentner Communications Corp. 1319

Intro: DH30 hybrid telephone interface; GSC3000 unattended radio remote control; Venture-Base stationary transmitter; Venture-Express portable transmitter and Venture-1 and Venture-6 receivers for use in IFB applications.

Also: Telephone hybrids SPH10; DH20; DH22; TS612.

Sandra Owens, Events Coord.
1825 Research Way
Salt Lake City, UT 84119

Phone: 801-974-3719

800-945-7730, ext. 719

FAX: 801-977-0087

E-mail: sowens@gentner.com

Web site: www.gentner.com

See LISTINGS, page 55 ►

For you
to see,
for others
to listen in
only.

D'ACCORD Broadcast Studio 3.0 at  in Amsterdam.

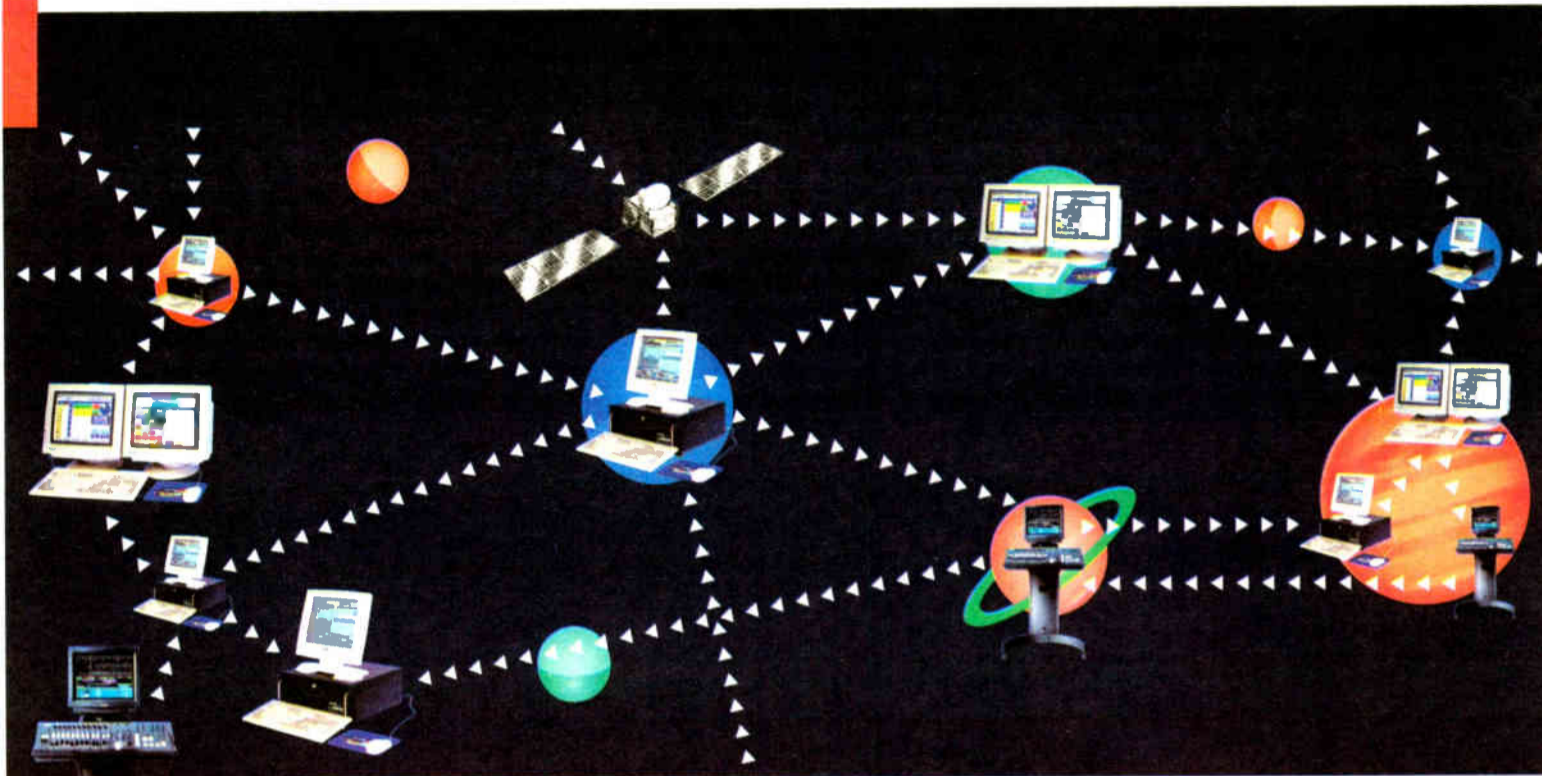
Tune in to the future. Come and see us at
IBC in Amsterdam on September 10th to 14th.
Witness the new D'ACCORD Broadcast Studio 3.0.

Let's click glasses to the new software generation
that will run your radio broadcast in an easier,
more convenient, more efficient and better way.

World Radio History


MANAGEMENT DATA
SOFTWARE ENGINEERING AG

Your Wide Area Networkability Is Limitless



ENCO **DAD_{PRO} 32** Digital Audio Delivery System

The demands of today's fast paced broadcast marketplace require maximum utilization of resources to achieve cost effective performance. Thanks to the latest advances in digital technologies, multiple broadcast facilities can now seamlessly share audio inventories, news, scheduling and billing data, and often consolidate other redundant functions.

All of this is possible by combining the advantages of non-proprietary products such as the ENCO DAD_{PRO} 32 Digital Audio Delivery System with Wide Area Network (WAN) architecture. Audio production may now occur from virtually anywhere within a group, information flow is automatically managed between multiple remote locations, and transfer schedules are configured to take advantage of varying tariffs for maximum efficiency and cost control.

The ENCO DAD_{PRO} 32 Digital Audio Delivery System provides a powerful professional audio management tool for both live assist and automated on-air operations, production, and inventory control. Support of Wide Area Networking is inherent with DAD_{PRO} 32, providing capabilities to take full advantage of distributed data and group interconnectivity.



next level solutions

WIRELESS

BROADCAST

GOVERNMENT

NETWORK SUPPORT

HARRIS

► LISTINGS, continued from page 52

Geode Electronics LLC 449

Intro: Geode is a technology development firm providing product enhancements and new features to radio devices.

Also: Surfer Network; Color Radio; RDS II.

Gepco International Inc. 1409

Intro: D5524EZ dual-pair 110 ohm AES/EBU digital audio UL-listed Type CM digital audio cable for fast, easy termination; 552612GFC 12-pair digital audio snake cable that features 26 gauge conductors, individually shielded and jacketed pairs and Gep-Flex overall jacket that is UL-listed Type CM; 552616GFC 16-pair digital audio snake cable that features 26 gauge conductors, individually shielded and jacketed pairs and Gep-Flex overall jacket that is UL-listed Type CM.

Also: Audio cables that include single-pair, multi-pair, multi-conductor, speaker, guitar/instrument, microphone and digital audio; specialty products include cable assemblies, breakout boxes, direct boxes and panels.

Giant Advertising 218

Global Media Resource Inc. 837

Gorman-Redlich Mfg.Co. 444

Intro: EAS encoder-decoder with telephone interface that initiates an emergency message from a remote location.

Also: EAS-I emergency alert system encoder-decoder; digital antenna monitors for AM directional arrays; NOAA weather radios.

Groove Addicts 1200

Intro: Jingle and ID packages, original music libraries and breakout production elements and beds with a cutting-edge style.

Harris Corp. Broadcast Communications Division 1007

On Display: Harris Z CD FM transmitters; Harris CDLink; Harris Digit CD digital FM exciter; SuperCiter; Quest; DRC2000 and DRC2024 digital audio consoles; CD2001 cart machine; Enco DADpro32; Orban Audicy digital workstation; Cash by Prime Image; Harris Intraplex Transmission Solutions featuring IntraLink, IntraGuide, STL Plus, Digital Cross Connect Server, Aurora, Synchrocast.

Home & Garden Radio 217

Hungerford, Aldrin, Nichols & Carter 629

Independent Audio 1507

Intro: Sonifex Courier portable hard-disk recorder with on-board graphical scrub wheel editing and built-in communications software. Weighs less than three pounds; Redbox range of budget connection equipment for use in various applications for radio stations, TV studios and recording suites.

Indy Racing Radio 1513

Inovonics Inc. 700

On Display: Broadcast audio processors; Internet audio processors; FM stereo generators; DAVID-II FM processor/generator; AM and FM modulation monitors; RBDS encoders and decoders; PBX telephone line eliminator.

*Jim Wood, Pres.
1305 Fair Ave.
Santa Cruz, CA 95060*

*Phone: 831-458-0552
800-733-0552*

FAX: 831-458-0554

E-mail: info@inovon.com

Web site: www.inovon.com

International Communications Products 312

Intro: DCR-972 SCPC/MCPC digital satellite



Florida Sunset

receiver for audio, data and IP multicast applications with expandability up to four stereo outputs

and 16 relay closures, including ancillary data and AES/EBU output.

International Demographics 843

International Gamco Inc. 309

Internet Community Concepts 1123

INTERVU/encoding.com 1451

InXsys Broadcast Networks Inc. 1037

Intro: The Classifind Network, multimedia classifieds on the Internet, co-branded to extend on-air loyalty online; DateChannel.com, an advanced singles system on the Web; BuySellBid.com, a localized online auction system with live capabilities and chat.

Itelco Inc 300

Intro: Digital audio broadcast transmitter features L-band and VHF-band solid-state DAB transmitters from 1 W to 1 kW with installations
See LISTINGS, page 56 ►

ALL SIGNALS CLEAR.

WARNER ELECTRIC Transmitter failure can be the killjoy of many a relaxing day off. Warner Electric's WHR Series STABILINE Voltage Regulator will protect your equipment from power line disturbances that threaten to cloud your station's reputation. The STABILINE Voltage Regulator consistently offers a steady voltage supply and the lowest impedance device available, allowing your electronics to operate at peak efficiency. No generated distortion. No generated harmonics. No generated worries. Make sure your plans include our rugged and reliable WHR Series STABILINE Voltage Regulator. And don't forget the sunscreen. For more information, contact us at 800-787-3532 or fax 860-582-3784. Or visit our website at www.warnernet.com. *People Finding A Better Way*

DANA

POWER CONDITIONING • VARIABLE TRANSFORMERS • LIGHTING CONTROLS • UPS SYSTEMS • TVSS • MOTION CONTROLS

► LISTINGS, continued from page 55
in Canada, Europe, Australia and New Zealand;
Also: Solid-state FM transmitters from 25 W to 20
kW; tetrode-tube transmitters from 5 kW to 30 kW.

J-L

Jampro Antennas RF Systems Inc. 1307
Intro: JSWB circularly polarized broadband
sidemount antenna for multi-user applications
requiring maximum bandwidth for combining two
or more FM frequencies on a common antenna.

John Boy & Billy Radio Network 333
John Boy & Billy "Big Show" is a high-energy,
non-offensive, entertainment-intensive morning
show available in rock or country formats.

Jones Radio Network Inc. 407
Intro: Dennis Prager Show, an issue-oriented,
morality-based talk show that has more to do with

right vs. wrong than right vs. left: Rhona at Night,
offering advice, humor and information on human
relationships; Nashville Nights is live from Music
Row and features country music, live perfor-
mances, celebrity interviews and listener inter-
action five nights a week.

Also: 24-Hour Formats: Adult Hit Radio, CD
Country, Classic Hit Country, Good Time Oldies,
La Bonita, La Buena, Music of Your Life, NAC,
Rock Classics, U.S. Country, Z Spanish;
Syndicated Programming: A&E Live By Request,
All Access, American Comedy Network,
ACN/PDQ, The Neal Boortz Show, Crook &
Chase Country Countdown, Crook & Chase
Center Stage Specials, Crook & Chase Minute,
Country Mailbag, Country's Most Wanted,
Facts/Fax!, Fax Off!, Fightback! with David
Horowitz; Handle On The Law, hardDrive, This is
Bob Harris, The Clark Howard Show, The Jimmy
Carter Entertainment Report, The Jimmy Carter
Minute, Jones Thru the Night, Lyons Den,

McLaughlin Radio Hour, The Dr. Gabe Mirkin
Show, The Motley Fool, Oldies Calendar with
Charlie Tuna, Personal Notes with Boney James,
Pure Country, Rock 'N Roll Fax, Up Close, Your
Weekend with Jim Brickman; Consulting: Jones
Radio Consulting & Programming.

KD Kanopy Inc. 1407
Intro: KD Majestic features quick setup, light
and portable canopies and tents in 5-foot x 5-foot,
8-foot x 8-foot, 10-foot x 10-foot and 10-foot x 20-
foot aluminum frames that can be customized with
graphics. Carry bag and stakes are included.

Kelly Music Research Inc. 901
Intro: Living Room Music Test, a patented
method for surveying music listeners opinions
about music from their own sound system at
home; Tracking Report Regional Call-Out consol-
idates call-out research efforts by combining mar-
kets surveyed into regions with results directly

downloaded from Kelly's Web site so users can
view and filter weekly data as they desire.

Also: Person to Person Local Call-Out, in which
listening data is collected via the phone.

Killer Tracks Production Music 1414

Klotz Digital America Inc. 313
On Display: Vadis digital audio platform; Vadis
DC, Spherion and Paradigm digital audio con-
soles.

Kwik Stands Displays 245

Label Company, The 213
Intro: Temporary tattoos.
Also: Window, bumper stickers, static cling
vinyl; promotional products such as membership
and listener cards, security admission wrist tick-
ets; scratch-off game cards.

Liquid Audio 1508
On Display: Liquid Audio provides services and
software that enable musicians, record labels and
music retailers to digitally deliver music via the
Internet in many digital music formats to many
leading music players. Available for free down-
load, the Liquid Player software allows consumers
to preview and purchase CD-quality music over
the Internet from hundreds of music Web sites
while protecting artists' copyrights and tracking
royalties.

Logitek Electronic Systems 352
Intro: Numix digital audio console is a low-pro-
file, modular unit featuring large LCD displays,
flexible setup, six to 42 fader models with any
input selectable by any fader and compatibility
with the Logitek digital audio engine; VMix virtu-
al mixer Windows PC software that can replace or
mirror console control of the Logitek digital audio
engine and works locally in the studio or remotely
through a modem; SV 51 six-channel surround
meter housed in a cube enclosure for overbridge
mounting, available for 5.1 or 7.1 mixes in medi-
um and high resolution displays with analog or
digital outputs.

Also: ROC-10 and ROC-5 digital audio con-
soles; Super VU and Ultra VU bar display meters;
Tru-VU curved face LED meter; 4VUB mechani-
cal meter; MON-10 audio monitor/selector; PRE-
10 mechanical switchers.

**Lucent Technologies -
Lucent Digital Radio** 751

Intro: IBOC System, an end-to-end demonstration
broadcasting an IBOC hybrid signal live, over-the-
air without impacting the host channel. The demo
also showcases the company's partnerships with
critical equipment manufacturers in the industry.

Also: Perceptual Audio Coder; results of the com-
pany's tests with station WJJB-FM in Linerof, N.J.

M-O

Magnitude Network 1141

Intro: Now Playing updates Web pages in real
time, showing visitors the artist and title of the
song currently playing over a RealAudio stream;
Streaming Media broadcasts a station's signal or
live event in FM quality stereo to listeners around
the world using a number of different systems;
Rich Media Ads are interactive, animated ads
designed to catch the consumer's eye.

Also: On-line media solutions such as E-com-
merce, Now Playing, Web site development,
streaming media and advertising sales, serving
creation and content integration.

**Management Data Software
Engineering AG** 439

Intro: MD Broadcast Studio 3.0, a new solu-
tion for radio stations, making the planning,
production and management of broadcasting
easier, quicker, more spontaneous and simply
better.

See LISTINGS, page 57 ►

Confiability with Life Time Warranty

EDUCATIONAL CIRCULAR SERIES

Model	Bays	Power	Gain	Price
MP-1	1	600W	-3.3	\$250
MP-2	2	800W	0	\$680
MP-3	3	800W	1.4	\$980
MP-4	4	800W	3.3	\$1,280
MP-2-4	4	2,000W	3.3	\$1,820
MP-3-5	5	3,000W	4.1	\$2,270
MP-3-6	6	3,000W	5.2	\$2,740

LOW POWER CIRCULAR SERIES

Model	Bays	Power	Gain	Price
GP-1	1	2,000W	-3.1	\$350
GP-2	2	4,000W	0	\$1,350
GP-3	3	6,000W	1.5	\$1,900
GP-4	4	6,000W	3.4	\$2,600
GP-5	5	6,000W	4.3	\$3,150
GP-6	6	6,000W	5.5	\$3,700

MEDIUM POWER CIRCULAR SERIES

Model	Bays	Power	Gain	Price
SGP-1	1	4,000W	-3.3	\$690
SGP-2	2	8,000W	0	\$2,690
SGP-3	3	10,000W	1.4	\$3,595
SGP-4	4	10,000W	3.3	\$4,500
SGP-5	5	10,000W	4.1	\$5,300
SGP-6	6	10,000W	5.2	\$6,100

The antenna gain may vary with the frequency. For powers up to 20 KW
please, make the request to provide the specific configuration.

OMB also Manufactures:
FM transmitters
TV transmitters
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Miami, Florida 33122
Phone: 305-477 0974
Fax: 305-4770611
Toll free: 888-OMB4USA

► LISTINGS, continued from page 56

Marketron Inc. 1215

Intro: New Windows software for the broadcast industry includes Traffic, Accounting, Sales, Proposal/Research, Management, Demand Pricing and interactive corporate reporting via the Internet.

Also: Traffic; Accounting; Management; Proposal; Research; Demand Pricing.

Marti Electronics 717

On Display: Smarti telephone codec; remote pickups; exciters; mono, composite stereo and digital studio-to-transmitter links.

Mascot Masters International 703

On Display: Manufacturer of life-size custom and stock mascots used to enhance a station's visibility; cooling systems; tote bags.

Maxagrid International Inc. 327

Media/Professional Insurance 328A

Intro: NAB Libel/First Amendment Insurance Plan offers comprehensive coverage at special membership pricing, including availability to NAB international members.

Mary Schust, VP
2300 Main St.
Ste. 800
Kansas City, MO 64108

Phone: 816-471-6118
FAX: 816-471-6119

E-mail: marketing@mediaprof.com
Web site: www.mediaprof.com

MediaTouch 1221

Mediatron 1432

Intro: AirControl NT99 Standard is a cartridge replacement, live assist and radio automation system featuring plug-in technology, Y2K compatibility and operation under MS-Windows NT 4.0, designed for small- to medium-sized radio stations digitizing their radio operations; AirControl NT99 Professional is a cartridge replacement, live assist and radio automation system featuring plug-in technology, Y2K compatibility and operation under MS-Windows NT 4.0, designed for medium- and large-sized radio stations digitizing their



Gatorland — Don't try this at home!

radio operations; virtual Voice Track+ recording system with effect tracks that work with hardware faders for real feel voicetracking and features a time announcement plug-in that can be used to produce voicetracks with the actual time.

Also: mediatron computer-aided radio and broadcast automation system including AirControl NT live assist and radio automation, HotControl Short Cut playback system,

AirEdit program scheduling system, NewsEdit news recording and editing system, Protracks multitrack recording and editing system, DigiReporter transportable news recording and editing system and GroupControl Radio Group control system.

Megatrx Production Music 332

Intro: Megatrx Promo Collection production music library for radio, featuring 75 CDs with thousands of fresh cuts in every style. Call for free CD demo and special SFX packages.



Gatorland — Don't try this at home!

MicroVoice Applications Inc. 310

Intro: DateCast radio personals system generates non-traditional revenue as a computer matchmaker for listeners who dial a promoted toll-free number and contact each other through a 900 line.

Miller, Kaplan, Arase & Co. 1333

MobilTRAK Inc. 501

Moseley Associates Inc. 1406

On Display: Digital studio-transmitter links featuring the all-digital Starlink series, including SL9003Q QAM modulated RF link with 16-bit uncompressed audio, SL9003T1 for T1/E1 telco circuits, SL9001SS 2.4 GHz spread spectrum link; PCL6000 analog STLs; DSP6000 digital audio codecs; MRC-1620 remote control; MRC-2 remote control with MasterController Software for Windows.

Murray Co. 605

On Display: Murray Company is a program management/contracting firm specializing in broadcast facility design/construction and delivering a turnkey facility from initial programming to final move-in, including studio planning and installation. Murray Co. has successfully completed projects for Infinity/CBS, Clear Channel, Trumper Communications and Sandusky Radio.

MUSICAM USA 228

Intro: PrimaLT codec offers many features of the CDQPrima 120 and includes an easy-to-use front-panel design and the company's proprietary compression algorithms; Team T1/E1 audio multiplexing transmission system with a modular construction and support of both linear and multiple audio coding standards for STL and multiple audio transmission requirements.

Also: Prima; Roadrunner; Fieldfone/Studiofone.

National Farmers Union 243

National Weather Service 1447

On Display: NOAA Weather Radio, public service announcements featuring a new synthesized voice.

Nautel Maine Inc. 728

Intro: XL12 AM solid-state transmitter meets all See LISTINGS, page 58 ►

digital consoles — outstanding

SPHERION
DIGITAL AUDIO CONSOLE

**Fast, powerful and intuitive and best of all
... priced like a quality analog broadcast console**

SPHERION features:

- unlimited input & output expansion
- any source available on any fader
- the ultimate in "logic follow"
- programmable button bank accessory
- "on the fly" recall of entire console setups
- expandable mix-minus
- powerful DSP capability
- multiple console integration via DiAN fiber optics
- ... and much more

integrates with VADIS 3d: audio router

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KLOTZ DIGITAL (M) SDN BHD (454 317-X), Malaysia Wisma Samudra • Level 4, No.1, Jalan Kontraktor U1/14 • Seksyen U1, Hicom-Glenmarie Industrial Park
 40150 Shah Alam • Selangor Darul Ehsan • Phone: +60-3-5193233 • Fax: +60-3-5195133

► LISTINGS, continued from page 57

USA Digital Radio IBOC DAB compatibility criteria including wideband frequency response and linear phase response; FM10 solid-state modular 10 kW transmitter offers 65 percent overall efficiency and incorporates a 50 W exciter employing Direct Digital Synthesis technology; XL60 solid-state 60 kW AM broadcast transmitter offers simultaneous IBOC digital audio broadcasting while maintaining full-power AM service.

NBG Radio Network 1207

Neal Communications 225

Netia Digital Audio 532

Network Music LLC 633

Intro: Hollywood Edge sound effects captures the quality of each sound within the digital realm for radio/TV commercials, industrial films, documentaries, motion pictures, plays, Web sites, multimedia presentations and other audio-visual productions.

Also: Production Music, Classic Music, Sound Effects, Production Elements, audio-based software tools.

Neutrik USA Inc. 223

Intro: Z + 4 Series XLR connectors with solderless terminations, gold contacts, only three pieces; also a new two-pole version of the standard SpeakOn series, featuring a two-pole cable end that mates with NL4MP receptacles.

Also: Miniator; Profi; PowerCon; SpeakOn; Easy Patch patch panels; MiniCon; Neutricon; Nanocon; Rean knobs and hardware.

NPR Satellite Services 1003, 1004

On Display: Satellite transmission, including space segment, uplinking services, equipment purchase, analog-to-digital conversion and uplink/network design consulting.

Omnia Group 1231

Intro: Omnia Profile upgrade now includes a free second page of behaviorally-based interview questions; Omnia Expanded Assessment features a customized, specific evaluation of the applicant/employee personality, management style and fit with peers and supervisors and is designed for GMs, LSMs, GSMs, SMs or other key station leadership.

Also: Omnia Profile; Omnia Background Search; Omnia DCO; Omnia ProManager.

OnRadio 1023

Orban 829

Intro: Audicy Version 3.0 software features expanded real-time effects processing and enhanced storage capabilities.

Also: Optimod-FM 8200; Optimod 6200 for Webcasting; Optimod 9200 for AM and HF.

P-R

Pacific Research & Engineering Corp. 507

Intro: StudioAdvantage pre-engineered custom studios are acoustically isolated turnkey studio modules that can be moved and adapted to new locations; AirWave digital on-air consoles features three-program busses, built-in talkback, metering-in-cue and room for up to two optional telco modules.

Also: Full-studio systems integration services and new studio consulting services; Integrity Digital console; BMX III on-air console; AMX on-air/production console; ABX Multitrack production console; Radiomixer on-air console; Productionmixer multitrack production console; AirWave on-air console; Newsmixer and Stereomixer compact consoles; Custom, PrimeLine and QuikBilt II studio furniture.

Penta Laboratories 338

Powergold 98 1544

Intro: Powergold 98 music scheduling system for Windows 95/98/NT features ease of use and built-in and user-customizable features.

Pristine Systems Inc. 625

Intro: Pristine RapidFire NT Server system is a central file server-based digital broadcast system that encompasses playlist scheduling, digital audio production and on-air playback operations.

Also: Pristine RapidFire; Music Plus; Audio Commander; Voicetraxx; TimeWarp.

Promusic Inc. 434

Intro: By-Category Catalog lists all Promusic libraries from atmospheric to Zydeco and is quick and easy-to-use and includes well-known themes and a CD description list.

Propagation Systems Inc. (PSI) 446

Intro: PSI Rototiller FM antenna, the FMR and FHR series fed "Rototiller" for power levels up to 60 kW with other models that include the FM and FH slanted V and FML low-power antenna.

Prophet Systems Innovations 947

Intro: NexGen Digital Broadcast, a hard-drive based digital automation system that is scalable from one to 128 local stations, runs uncompressed linear audio or MPEG compressed audio, and offers improved Windows-based interface and drag-and-drop capabilities; NexGen Digital CD Ripper features high-speed digital audio extraction with the ability to insert into the NexGen Digital Broadcast database while material is automatically compressed, leveled and referenced to CDDDB for song data.

*Jacqueline Lockhart, PR Dir.
111 W. Third St.
Ogallala, NE 69153*

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800-658-4403*

FAX: 308-284-4181

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Radio Computing Services (RCS) 1146

Intro: Selector for Windows music scheduling system features round format clock faces, Magic Levels Browse and Show and Tell animated help; Master Control with IVT is a "selector-smart" on-air system that features "Internet Voice Tracking," a system to add voice tracks directly into a master control program log from anywhere with only a mic, a Windows soundcard and Web access; SelectorNET works with most digital on-air systems.

See LISTINGS, page 60 ►

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World Radio History

▶ LISTINGS, continued from page 58

tems to continuously update Web sites with the title and artist of what's playing now, what's next and up to the last 50 songs aired.

Also: Selector; Talkback; Master Control; Tracker; Linker; ProRate; MusicBase.

Radio Concepts USA 336

Radio Data Group 1332

Radio Express Inc. 1137

Radio Systems 325

Intro: StudioHub wiring system consists of premade patch cables, RJ-45 connectors, special connecting blocks and companion amplifiers that are designed to plug together easily and work together.

Also: Millennium Series consoles; clocks and timers; distribution amplifiers; telephone interfaces.

RadioWave.com 423

Intro: RadioWave.com Player links listeners to CD purchases, ticket sales, station promotions and Web sites of advertisers.

Radio World/IMAS Publishing 800

Radio World, Radio World International and Radio World America Latina reach the entire world of radio. The newspaper for radio station managers and engineers, Radio World has been the world's No. 1 source for industry news, management trends, production techniques and new product information for more than 20 years.

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Ratio Architects Inc. 348

Register Data Systems 722

On Display: Phantom; System Six; Replicator.

RFS Broadcast 306

On Display: FM antennas; low-loss foam coaxial cable connectors; FM combiners.

Roll A Sign, Div. of Reef Industries Inc. 236

On Display: Roll A Sign plastic disposable banners, printed in up to four colors for promotions and events.

Royal & SunAlliance Insurance Group 328B

Rules Service Co. 211

Intro: Legal publishers of FCC rules, patent and trademark, copyright rules on loose-leaf, disk and soon on CD-ROM.

S-T

SCA Promotions Inc. 543

Intro: Birthday Bash, a contest that rewards listeners if a randomly selected caller's birth date matches the preselected determined date, the caller wins and SCA pays; Twister, similar to the old money machine concept, is 12-by-10-feet, features a bouncer floor, the ability to set up in minutes and grand prize coverage up to \$1 million; JackPot Machine is a customizable, lightweight, easy to set up game that allows control over the prize frequency, levels and payouts or giveaways with grand prize coverage available from SCA.

Also: Dollar Bill Drop; Cash Call; Bumper Sticker; Classic Countdown; Visible Vault; Second Chance Lotto; Money Bags; Scratch and Win Game Cards; Phrase That Pays.

Susan Hatfield, Mktg. Dir.
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Ste. 625
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214-860-3700
888-860-3700
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Web site: www.scapromotions.com

Scott Studios Corp. 607

Intro: Scott Linux System touchscreen digital audio player-recorder.

Also: Scott 32 System (versions for Windows 2000, NT, 98 and DOS); VTVI: Voice Trax Via Internet; Spot Box to replace tape carts with hard drive digital audio; AXS 2000+ satellite/CD controller; News Center for wire capture and edit text audio in the newsroom and by the Internet; RRR, wide-area network simulation by the Internet.

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Dallas, TX 75234

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FAX: 972-620-8811

E-mail: info@scottstudios.com
Web site: www.scottstudios.com

Seamount Technology 351

Shively Labs 941

On Display: Single multifrequency antennas; combiners; coax; pattern studies.

Silicon Valley Power Amplifier Corp. 221

Intro: 10/1000, a compact 1 kW FM solid-state broadcast power amplifier featuring 10 W maximum input, VSWR foldback, remote on-off and gain control and remote monitoring; 10/3000, a 3 kW FM amplifier using three 10/1000 amplifiers with a pre-amp and combiner that can be incremented up to 5 kW.

Also: Power amplifiers B-150, B-300, B-450, B-600, B-850, B-1000, B-2000; FM amplifier modules from 10 W to 700 W.

Skyward Production 1515

Sonic Foundry Inc. 251

Sonifex Ltd. 1507

Intro: Courier portable hard-disk recorder records two mic/line channels to PCMCIA hard disk, writing linear or MPEG.wav files, with built-in cut-and-paste editing, modem data transfer and ISDN support; Redboxes connection boxes and amplifiers include two digital distribution amplifiers with either

S/PDIF or AES/EBU outputs, an A/D-D/A converter, sample rate/format converter and a digital automatic mix-minus unit.

Also: HY02 analog and digital telephone hybrids and Sentinel+ audio loggers.

Sony Electronics Inc. 249

Soundscape Digital 400

Intro: R.Ed recorder editor, a 32-track two RU for Windows 95, 98 and NT that holds up to four IDE drives with up to 137 GB storage with sample rates up to 96 kHz, three x TDIF, time code options, RS-422, MIDI I/O through, AES/EBU and third party plug-in support; Mixtreme 16-channel PCI mixer interface that features two x TDIF optional SPDIF/W/Clock, Dolby Surround and digital multichannel mixing software from R.Ed workstation with third party plug-in support; SS8i/o-2 ADAT/TDIF interface featuring a true 24-bit signal path.

Also: SSHDR-one digital audio workstation; SS8i/o-one interface; SS8i/o-3 interface.

SpaceCom Systems Inc. 1339

Intro: FM-Quad, an MPEG-2/DVB satellite transmission technology featuring a 24-hour uplink/operations center.

Sport Worx 343

Strata Inc. 907

Studer North America 833

On Display: On-Air 2000 digital broadcast console; V-Eight digital modular 20-bit multitrack recorder; OMR8 eight-channel 24-bit disk recorder/dubber.

Super Prize Machine Inc. 234

Superior Broadcast Products 229

On Display: FM and TV transmitters, translators and amplifiers; antennas for TV and FM; solid-state and single tube transmitters.

Superscope Technologies/

Marantz Professional 1541

Intro: PMD650 professional portable MiniDisc recorder with stereo XLR mic/line inputs, phantom power (48 V), digital I/O and recording in mono for 148 minutes or stereo for 74 minutes.

Also: PMD510; PMD520; PMD502; PMD350; PMD321; CDR630; CDR640; PMD101; PMD201; PMD221; PMD222; PMD430.

Switchcraft Inc. 344

Intro: AAA Series QG Twist XLR Connector with pre-load inserts in a front shell, pre-loaded strain relief in the handle, two parts for the end user to handle and a variety of pins/contacts and finishes; 3502 RA series, a right-angle version of the 3502A RCA plug with a large handle that accepts large cable OD, large cable clamp and rugged construction; a complete line of audio patchbays incorporating the PPT punchdown with heavy-duty housing that withstands multiple punches and serrated teeth in the wire slot that grips the wires.

Also: Audio patchbays and patchcords; connectors; jacks and plugs; adapters; video patchbays.

SWR - Systems with Reliability Inc. 342

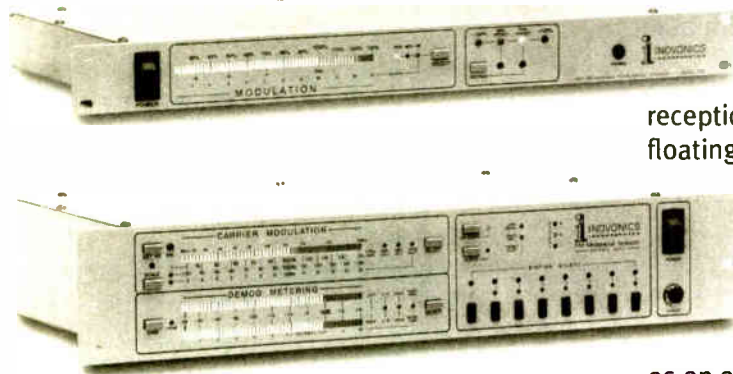
Intro: FM 10 Series antenna upgrade combines structural integrity with the new Bronze Tee Connection for strength and durability.

Also: FM antennas featuring the FM 3, FM, FMU and FMP, low-power to high-power antennas ranging from 500 W to 35 kW per bay; rigid transmission K-line.

Lee Hoover, Mktg./Adv.

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▶ LISTINGS, continued from page 60

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FAX: 814-472-5552
E-mail: dswr@twd.net
Web site: www.swr-rf.com

Syntrillium Software Co. 222

Intro: Cool Edit Pro 1.2 64-track digital audio recorder, editor and mixer with 34 built-in effects, DirectX support, 24/96 and 24/192 sampling and RealMedia G2 support.

Tapscan WorldWide 617

Telos Systems 1417

Intro: Series 2101 Talk Show System interfaces directly with ISDN and T1 phone lines, offers conferencing capabilities and can expand to handle up to 96 lines assignable to multiple studios; 2X12 Talk Show System for single-studio applications, interfaces directly with ISDN phone lines, handles up to 12 lines and has a built-in conferencing capability; Telos TWO, a dual line ISDN hybrid that offers improved call-in audio quality, two-line conferencing capability and system performance for production studios, newsrooms and teleconferencing applications.

Also: Zephyr/Zephyr Express Layer III codecs; One, One+One, 100 Delta digital hybrids; 1X6 Talk Show System; Direct Interface Module; 1A2 Multiline Interface Module; Audioactive Internet Audio suite of products for MP3 encoding and decoding. See also Cutting Edge.

Tennecom 238

TFT Inc. 734

Intro: TFT 999 digital insertion unit contains an A-to-D converter that is transparent to an AES/EBU digital audio stream and can interrupt that stream to insert another AES/EBU stream or analog audio; TFT 923A AM modulation monitor, a precision broadband demodulator for AM transmitter proof-of-performance measurements and for monitoring the modulation level of an off-air broadcast signal when used in conjunction with the optional AM broadcast band RF preselector.

Also: EAS 911 TV and radio; 844A and 884 FM modulation monitors; 923A AM modulation monitor; 9100A/9107B-8300/8301B composite STL TXs and RXs; 9200/9205 monaural STL TX and RX; 8900 FM synchronized on-air booster system.

TOMA Research/American Consult 334

U-W

UPI (United Press International) 504

UPI offers a broadcast newswire, an audio news and sports feed, and a commercial-free radio network. Specialties include the exclusive UPI Religion Feed, delivery via e-mail and/or by satellite dish installed at our expense.

U.S. Census Bureau 438

On Display: Profile America, daily 60-second radio spots; Al Dia, daily 60-second radio spots in Spanish.

Rick Reed, Producer
Public Information Office
Rm. 2705-3
Washington, DC 20233

Phone: 301-457-2812
FAX: 301-457-3670
E-mail: broadcast@census.gov
Web site: www.census.gov

US Tape & Label Corp. 1227

Intro: Bumper strips and window stickers for the broadcast and entertainment industries.

USA Digital Radio Inc. 729

Intro: In-Band On-Channel (IBOC DAB) technology using the existing AM/FM radio spectrum to transition AM/FM radio to digital audio broadcasting.

David Salemi, Dir. Mktg.
8865 Stanford Ave.
Ste. 202
Columbia, MD 21045

Phone: 410-872-1533
FAX: 410-872-1560
E-mail: salemi@usadr.com
Web Site: www.usadr.com

USA Radio Network 1509

Valcom Ltd. 1237

On Display: Valcom engineering and manufacturing of free-standing, 74-foot fiberglass AM broadcast antennas, which use less real estate and are an alternative to guyed towers while meeting FCC regulations.

VISIT FLORIDA 154

V-Soft Communications 1440

Intro: FMCont for Windows is an FM contour-to-contour channel search program that includes the FCC proposed LPFM spacings tables, directional antenna pattern editing, FCC minimum spacings and Channel 6 interference mapping and Mexican and Canadian treaty provisions; Probe offers "real world" coverage and interference predictions, FM/TV/LPTV/DTV analysis, population calculations and radio path analysis using Longley-Rice, TIREM, PTP and shadow propagation models; Terrain3D features Longley-Rice coverage and line of sight microwave paths over 3D terrain, wire mesh or solid representations with gradient shading of signal strength and overlay towers and U.S. population scattergrams.

Also: Contour; FCCCurves; IDSeries; InterDLG; LRStudy; Plotpath; Pattern; RFHaz; Towerdraw; V-Tower; SearchFM; SearchTV.

Kate Michler, Bus. Associate
1600 Picturesque Dr.
Cedar Falls, IA 50613

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800-743-3684
FAX: 319-266-9212
E-mail: kmichler@v-soft.com
Web site: www.v-soft.com

Ward-Beck Systems Ltd. 201

Intro: R2K Series radio consoles feature four stereo program busses, two mono mix busses, A/B Select per unit and availability in 8-, 12-, 20- and 28-input channel mainframes.

Also: PODS broadcast problem solvers; 8200 Series audio distribution and conversion products.

Warner Electric Motors Controls 406

On Display: STABILINE power protection products, including uninterruptible power supplies, automatic voltage regulators, power conditioners, transient voltage suppressors/RFI filters.

WebPresence Inc. 1523

WebRadio.com 549

Wheatstone Corp. 525

Intro: A-5000 high-performance analog radio console, uses the same mainframe as the Wheatstone D-

500 series digital console, allowing future conversion to full digital operation; D-600 digital on-air/production console features DSP-based four-band EQ, dynamics processing, ducking, eight-character source displays, four stereo busses that provide both digital and analog outputs and availability in mainframe sizes up to 40 positions; AES digital routing switcher with digital and analog I/O, a compact card cage that accommodates 256 x 256 stereo crosspoints, system expansion to 1024 x 1024, graphic user interface for PCs and optional console-mounted control heads.
Also: A-6000.

Who Did That Music? Library 1200

On Display: Music libraries that include jingles, ID packages, production elements and beds in a cutting-edge style now available in format-specific radio packages.


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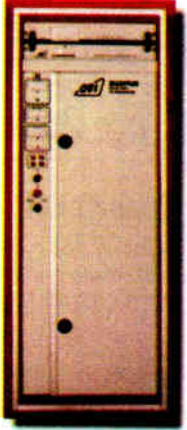
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World Division 324

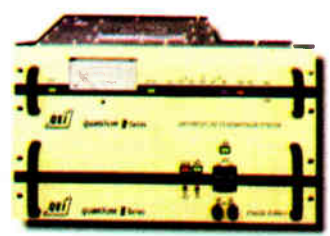
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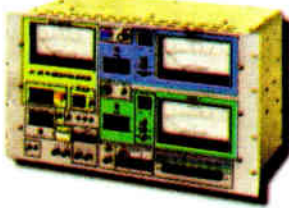
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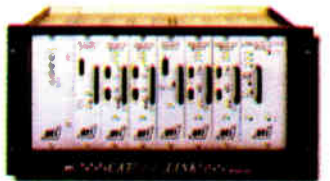
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INSIGHT ON RULES

FCC Updates Self-Inspection Forms

Harold Hallikainen

In March, the FCC released a revised series of Broadcast Station Self-Inspection Checklists, with separate checklists for AM, FM and TV stations. The checklists are available at the FCC Web site (www.fcc.gov/cib-bc-chklists). I have also placed copies of the checklists at hallikainen.com/FccRules — this version includes hypertext links to all FCC rules cited in the checklists.

The broadcast station checklist grew out of a pilot "mail-order inspection" program that the FCC's Los Angeles

office introduced in 1991. (See Insight On Rules #48 at www.broadcast.net/~hhallika) The original project included forms similar to the existing ones. They were randomly sent to stations that then had 20 days to respond. The FCC could determine from the responses whether a station deserved an inspection.

Checklist

By 1993, NAB had convinced the FCC to drop the idea (see Insight On Rules #65). NAB argued that prior to considering such a form, the commission should have gone through a public

comment period. NAB released its own Radio Broadcasters' Inspection Checklist, currently being updated, and the FCC adapted the pilot project's forms to be "self-inspection forms."

Ronald Ramage of the FCC's Kansas City office recently completed revision of the forms to make them agree with newly revised rules and to clarify various other sections. These forms are used to help stations improve their compliance with commission rules.

Unlike the original pilot project, these forms are not sent to the FCC. Another FCC program to help stations

improve their compliance is the Alternate Inspection Program. Finally, recall that this form is not the law — the rules are the law. The form is a good interpretation of the law, but not perfect.

The forms begin with an introductory section that includes phone numbers and Web URLs for further FCC information. The remainder of the form is broken into sections: Administrative and Non-Technical, Antenna Structures, Emergency Alert System (EAS), Technical, Attended vs. Unattended Operation, Local Marketing Agreements (LMA), AM Directional Stations, Abbreviations and Glossary of Broadcast Terms.

The forms are updated to show the new rules regarding the main studio, public inspection file, antenna structure registration and EAS. The form does a very good job summarizing the

**Remember,
this form is not the
law — the rules
are the law.**

rules, then pointing you to the appropriate section.

It is, of course, difficult to write a rule or law that concisely describes exactly what is permitted or prohibited. Thus, varied interpretations of the rules are available. Further, FCC and court decisions in individual cases generally establish a precedent that is followed in later cases, thus expanding the effect of the rule considerably beyond the plain meaning of the words in the rules.

Interpretation of rules

There are some rules where the interpretation on the checklist is supported, in my opinion, by neither the rules themselves or cases construing those Rules. Finally, there are a couple of rule sections where I have seen occasional FCC violation notices that have not been called out in the checklist.

By reading the rules referenced in the checklist, you're helping yourself. For example, section I-A states, "The station license, construction permit, renewal certificate, auxiliary transmitter authorization, special temporary authorization (STA), and/or any other instrument of authorization shall be readily available and easily accessible at the station's principle control point."

This is an accurate summary of the rule. One might assume, however, on reading this that stations should have an authorization for an auxiliary transmitter. However, 73.1670(a) states a station may install an auxiliary transmitter to drive the main antenna system without further commission authority. Rule 73.1670(b) requires an authorization to use another antenna. So, the checklist is correct, but don't jump to any conclusions before reading the cited rule.

This section also suggests that the
See RULES page 70 ►

These Are Just A Few Of The Products We'll Have In Our Booth 1136 At The NAB Radio Show In Orlando

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BOOTH NUMBER 1136



AETA Scoop Reporter II

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WIRED FOR SOUND

Coax at Work in Wireless Mics

Steve Lampen

We left our last installment (RW, July 21) discussing the use of low-loss coax to extend wireless microphone antennas.

When you can remove the antenna (some low-frequency receivers have permanent antennas), the key is to use low-loss cable. To determine your best choice, first you must determine the frequency at which your wireless mic operates.

Once you have established this, you can then check the attenuation of any 50-ohm cable. You might check with the wireless mic manufacturer, but most antennas which are removable are indeed 50 ohm.

Look in any cable catalog or on any manufacturer's Web page and compare attenuation at the closest frequency they provide. You should immediately be able to compare loss.

Low losses

Be aware that the lowest loss cable is often likely to be RG-8, 0.405 inch diameter, or even bigger, such as the smaller Andrew cables. While low-loss, these cables can tend to be large, bulky, stiff and expensive. But if performance is No. 1, that would be your choice.

There are smaller cables — RG-8X for one — that are more flexible and smaller, but compromise performance. It's a trade-off, just like everything else. All these cables can be rugged and many are often intended for outdoor applications — which may be just the bill if you're broadcasting from the county fair.

Our old buddy 'wavelength' plays an important role in diversity antennas.

Remember that line of sight is the key. So you might also consider putting the antennas up high, especially if you're outdoors. That way, the receiver will always have an unobstructed view of the talent. It also keeps the antenna away from little fingers and other potential trouble.

Then we have the little matter of diversity antennas.

These are found on higher-priced wireless receivers. They usually consist of two antennas, one on each side of the receiver. When the signal is stronger on one antenna, the receiver instantly switches to that antenna. This greatly reduces the multipath and fade problems of single-antenna systems.

Some cheaper receivers try to fool you by putting just two antennas on the box. That means nothing. Each must have a receiver and an electronic switch between them.

However, our old buddy wavelength plays a very important role in diversity antennas, as we have discussed in the past. If these two antennas are not at least one-quarter wavelength apart, they might as well be in the same place (i.e.

a single antenna).

At the lower frequencies, say 150 MHz, a wavelength is 2 meters or 6.56 feet. One-quarter wave is 1.64 feet, or 19.68 inches. Since these receivers are most often boxes that fit into a 19-inch rack, they are less than 19 inches wide, and having diversity antennas (at 150 MHz or below) buys you almost nothing.

And then we have the latest trick: miniature diversity receivers. These are units intended for mic connections to video camera, but will no doubt find customers who need compact, low-weight wireless receivers, such as on-location effects recording or on-location film sound.

But the distances between the antenna in these miniature receivers are only a few inches apart. If they are 6 inches apart (most are less), that means their "diversity" begins to work at 492 MHz or above. So, whether you use big or small diversity receivers, what do you do?

Well, be sure and buy a receiver with removable antennas. If you can't take them off, you certainly can't extend them. If you can't extend them, this locks you into a situation where the receiver itself must be line-of-sight to the wireless mic transmitter.

While this may be acceptable for many temporary venues, permanent

installations may find it an impossible situation. That line-of-sight location may not have power available. And you'll find yourself running back and forth between the receiver and console location just to set everything up. And if something goes wrong during the remote, you can't exactly leave the mixer to go find out what's happened.

You really want the wireless receiver back with you, or in a permanent install back in the house mixer rack. And you then put the antenna in the line-of-sight location that gives you the best reception.

I once worked for a station with an air studio that faced a major tourist attraction. The morning show personalities would often walk across the street with a wireless mic and interview and joke with

See LAMPEN, page 71

THE WIRING SOLUTION

StudioHub

September / October 1999

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Branch Circuits in the Shop

Charles S. Fitch

This is one in a series of articles about the National Electrical Code. The previous part appeared in the July 21 issue.

In the final analysis, electricity and, more particularly, alternating current electric power is merely a transport mechanism. Ponder this concept. No one eats electricity and no one watches electricity for entertainment directly.

However, electric power conveniently and majestically allows us to move one form of energy, such as those millions of gallons of icy water in Northern Quebec flowing over dams

that back up mighty rivers, or the fires of tons of inexpensive Australian coal burning in boilers in Baltimore, from where that energy is to where it is needed.

Your lowest-cost electric utility purveyor transports that energy via electricity to your site, where it is metered for purchase. Then you deliver it to the point in your plant where it is converted to something else for final use, such as baking bread for the staff or running the entertainment center in your office.

On reflection, all radio stations do is simply take electric power and, hopefully with some inspiration and talent,

manipulate the energy of those charged electrons, turning them into great broadcasting.

In the shop

All stations have electricity. Not all have talent or inspiration.

So again, in that cold tyranny of logic, the electric system in your station probably is the most constant, the most important, the most necessary and the most durable station resource you have.

This may be syllogistic but it is true. That's why it pays top dividends to invest in and maintain the best electrical systems you can afford for your station.

In recent articles, we arrived on our



NEC journey at the panel loads and started reviewing those loads with the station's tower lighting. Now we will look at the panel loads/circuits that supply shop and nearby system components.

The NEC divides appliances into two general divisions: fixed and portable, and the circuits that supply them into two categories: dedicated and general-use.

For instance, a large coax line pressurizer that is hard-wired to the electrical system and supplied by a unique circuit breaker would be considered a fixed appliance wired to a dedicated supply circuit.

The tower lighting system we have discussed is another example of a dedicated, fixed appliance. Almost without exception, these have a switch-type local disconnect to allow you to turn off power to them for service.

A big copier machine (normally a roll-about or set on a table) plugged into a single circuit outlet (probably the only matching one in the station) would be considered a portable appliance on a dedicated circuit. The local disconnect in this case is the ability to unplug the unit.

The word processor and the automation work station used by your administrative assistant in the foyer plugged into COs (convenience outlets) would be viewed as portable appliances on general circuits even if those outlets were located for just this purpose.

Sufficient power

Why does the NEC spend so much time and effort differentiating between loads and powering arrangements? Primarily to make sure that the power requirements of all loads are recognized and considered properly so that sufficient power is available from the service supply.

Further, this careful recognition of loads and their characteristics allows allotment to the right type of breaker with the proper protection ampacity. At this point, it is a simple matter to keep the system balanced, as well as to have consistent labeling for circuits on panels across the NEC world. We should all be using the same lexicon.

As mentioned, an element of that allotment process is to select the breaker type and ampere rating for appropriate protection. See the reference section of the RW Web site at www.rwonline.com for a discussion of breakers and breaker types.

The NEC places an 80-percent limit on a dedicated circuit's ampacity. The normal load cannot be more than 80 percent of the amperage of the protection device. It's a given that the wire size will be properly matched.

For example, if the window air conditioner on its own circuit in your shop draws a maximum 13 amps, you might

See NEC, page 69 ▶

"It was simple enough for even my most computer-phobic jocks to understand."

—Troy Richards at KCCS

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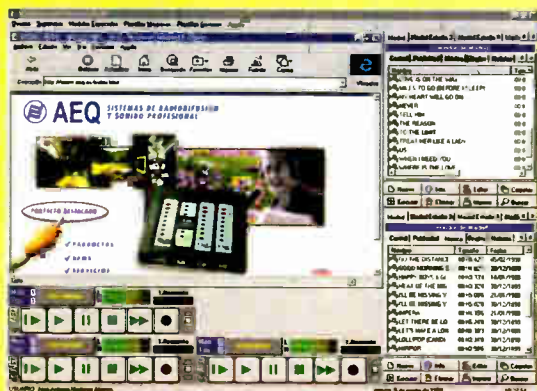
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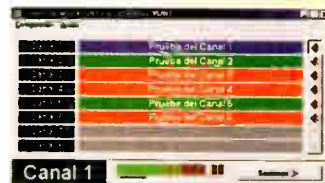
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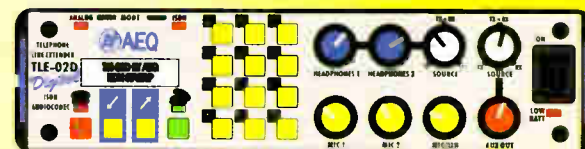
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Workbench

Radio World, August 18, 1999

Belden 1804A Solves a Problem

John Bisset

Paul Kaminski is the news director for Motor Sports Radio and a regular contributor to RW.

At this year's NAB, Paul visited the Belden booth, and saw the company's mini star quad cable, Belden 1804A. After reading the problem described in the June 23 issue, Paul wrote to suggest this new Belden cable for wiring to mini jacks.

The star-quad permits you to connect both blue wires to pin 2, and both white wires to pin 3, and the bare wire to pin 1 on an XLR.

For stereo mini-plug connector to

mono dynamic microphone, Paul wired one blue wire to the tip, the other blue wire to the ring, and the bare and white wires to the sleeve. Paul adds that the wires are just the right size so they can be soldered the first time without do-overs.

The cable seems to be rugged enough to stand up to field use, yet not weigh a lot. That added weight of "standard" mic cable puts a lot of strain on the jacks and plugs! Another plus is the cost is less than other star-quad cables.

Concerning the mini plug, Paul shares an inexpensive solution at \$1.05 per plug from your local electronics supplier. The answer is a GC 30-572, 3.5mm, three-conductor male phone plug. It has a plastic barrel and strain relief, and the Belden 1804 fits nicely inside the plastic strain relief.

Paul reinforces the cable with a length of shrink, fitted over the back half and first inch of cable.

While in the field, Paul saw an interesting backup solution, incorporated by a reporter using a MiniDisc. He took an element from a computer mic, wired it to a Radio Shack three-conductor gold mini-plug, shrink-wrapped it,

and has a mic the size of a thumbnail!

With a couple of modifications, such a



Figure 1: Put up computer reboot instructions to help your staff get the station going — especially when you are on the other side of town.

★★★

It's impressive when contract engineers have the time to do the job right. Figure 3 is a case in point.

How many scribbled "sign-on" instructions have you seen? Not at Bill Lambert's stations near Raleigh, N.C. A color printer provides clear instructions for the staff. The procedures ensure that anyone can sign on the station, if they can read!

There's the added advantage of looking good when the FCC inspects. Even the old

standby microphone could be kept in the MD field kit. If the mic cord is forgotten, unusable or lost, the reporter can still record voice tracks and sound with newsmakers. Some of these computer electret mics can be had for \$2 or \$3 each. And although the electret may increase battery drain, because it needs phantom power from the MD, in a "must get the story" situation, your MD should be charged and ready for the task.

★★★

Although the goal of consolidation might be to get all the studios into one building, this is not always practical or possible.

When you have studios scattered across a state, and you are the sole engineer, you need some contingency plans — especially when hard-drive automation systems are used.

Jeff Twilley, director of engineering for Delmarva Broadcasting, developed the system shown in Figure 1. Posted on the wall of his computer room are some reboot disks for his computer systems, along with a set of instructions.

Most stations have an operations person or PD who has enough computer literacy to handle rebooting procedures in the absence of an engineer. The written instructions, combined with the availability of an engineer on the phone if needed, and any problems are quickly resolved.

★★★



Figure 3: Label transmitter operational procedures to guard against fines and early morning calls.

"dymo" labels are disappearing with the Brother P-Touch family of labeling machines. A few extra minutes to do the job right will save you on callbacks — and those pesky 6 a.m. sign-on calls from the new operator who can't find the transmitter!

■■■

John Bisset has worked as a chief engineer and contract engineer for nearly 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

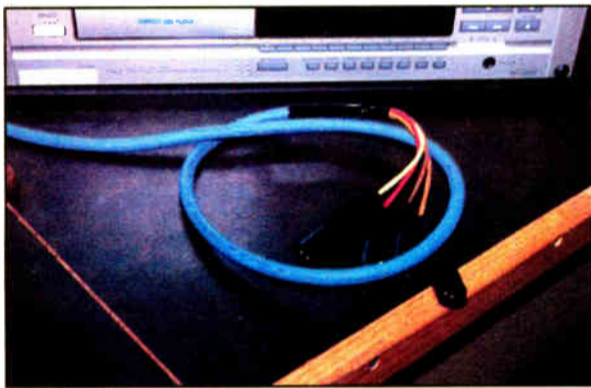


Figure 2: A pre-wired mult provides alternate sources of 'ins and outs' for a console.

Registration of Interest Requested

The Commonwealth Government of Australia requests registrations of interest from parties interested in acquiring a license to operate the

Cox Peninsula High Frequency Radio Transmission Facility Northern Territory, Australia

Further information on this former Radio Australia broadcasting facility is available by contacting the Project Manager by 17 September 1999. Expressions of Interest are then to be submitted by 30 September 1999.

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NEC Shop and System Loads

► NEC, continued from page 66 think that a 15-amp circuit would be just fine. It isn't.

Thirteen amps is 87 percent of 15 amps, and so this arrangement doesn't meet the 80-percent restriction. The first standard CB that could supply this unit would be a 20-amp CB where 13 amps would be 65 percent of the maximum possible current.

This 80-percent restriction is close to being another of those thematic threads we often talk about that travel through the entire NEC. With rare exception, no circuit or conductor can regularly be asked to supply more than 80 percent of its ampacity to a single appliance.

Circuits that provide power to multiple outlets or devices that are intermittent in operation or consumption can be used at their maximum capacity. This is roughly 1,800 watts for a 15-amp circuit and 2,400 watts for a 20-amp circuit. Any continuous loads on these circuit have to be multiplied by 125 percent and that value used in the load determination to keep them under that 80-percent margin. (See NEC 210-22 & 220-(a).)

Suggested setup

So what sort of circuits would you have on the shop end of the building and how would they be allotted to loading and use?

The first would be lighting. There should be a minimum of two lighting circuits, one for normal lighting and one for emergency lighting. A radio station is a business, and businesses are required to have emergency lighting to illuminate the way out of the space in case of fire, earthquake, power failure, low ratings and the like.

Although the count, choice, placement, signage, etc., of emergency lighting is contained in the "Life Safety Code-NFPA 101," how to wire these and the supply of proper power arrangements are covered by the NEC. Another caveat in these codes is that only regulatory emergency lighting is on the emergency circuit.

Any "elective" emergency lighting you choose to install can be powered from any circuit of choice, but once again, it is just plain common sense, something engineers should have and GMs unusually don't, to put them on their own separate circuits.

It is also just plain common sense to have nothing else on your regular lighting circuits but lighting. If COs or any other appliances are on that circuit, you not only run the risk of having those other devices trip the protection device, leaving you or your associates in the dark, but if that other device is a heavy user or starter such as a floor buffer, the lights will most likely wax and wane as that device is used. The same goes for the lights in your shop.

In a business, it is wise to keep lights on light circuits. I suggest that every significant space have lighting available from two circuits. This will prevent that area from being plunged into darkness when a breaker trips. Obviously this eases maintenance hassles: approximately half the lights will remain lit so you can see to fix the defective light. Half the lights should allow the staff to continue

to get some sort of work done in the meantime as well. and test gear that would be located there. It is Good Engineering Practice

With rare exception, no circuit or conductor can be asked regularly to supply more than 80 percent of its ampacity to a single appliance.

Other shop circuits would be those associated with your station's terminal to divide the circuits to your racks and devices carefully so as to maintain

phase balance (see NEC 220-4d) and not to load the supply or breakers unevenly.

When in doubt, as a minimum, it is wise to send a circuit to each rack, but the only NEC restriction is that the total current not exceed 80 percent of any rated breaker ampacity on a regular basis because all this terminal equipment is viewed as continuous loads.

We will continue this discussion in the next installment.

■ ■ ■

Charles S. Fitch, W21PI, is a registered professional consultant engineer, a member of the AFCCE, a senior member of the SBE, lifetime CPBE, licensed electrical contractor, station owner and former director of engineering of WTIC-TV in Hartford, Conn., and WSHH-TV in Marlborough, Mass.

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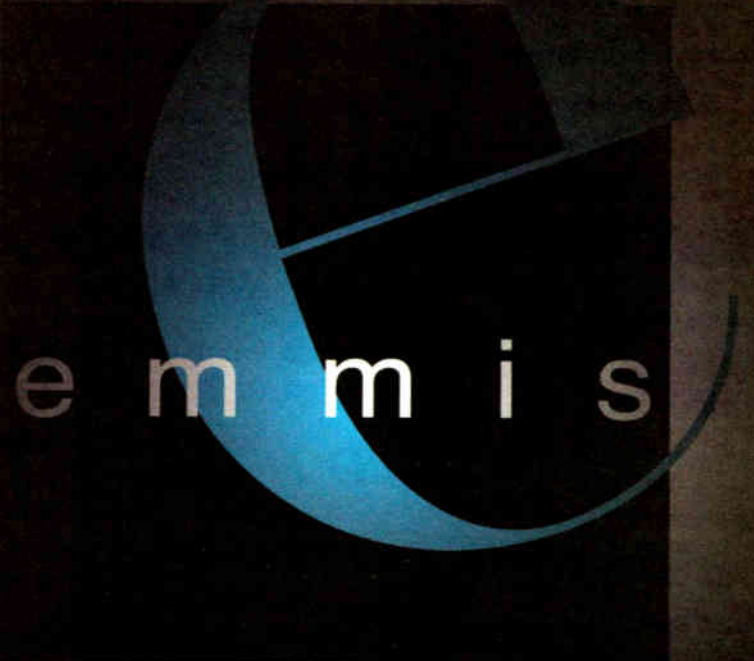
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Self-Inspection Forms Revised

► RULES, continued from page 62

latest equipment performance measurements are to be available for FCC inspection. This generally is true.

Rule 73.1590(a) requires these measurements to be completed annually (with no more than 14 months between successive measurements) for AM stations. FM stations are required to make these measurements upon installation of a new transmitter or various other changes in the transmission system. Finally, rule 73.1590(d) requires these records to be maintained for two years and to be made available for FCC inspection during this time. It is quite possible that an FM station will have no EPM on file. However, every AM station should have these measurements on file.

Common violations

The checklists describe the most common violations of the rules regarding chief operators. They do not mention, however, that the chief operator of directional AM stations or AM stations with an authorized power greater than 10 kW must be an employee, not a contractor, of the station. Further, should the chief operator serve on a contract basis, that contract must be available for FCC inspection (not pub-

lic inspection, so it should not be placed in the Public Inspection File).

The checklists give a good summary of the station identification requirements. However, the checklist states, "Simulcasted AM and FM stations may identify jointly if owned by the same licensee."

This exemption does not appear in the cited rule (73.1201). There is such an exception (allowing the ID on a station other than the one it is identifying) for AM and expanded-band AM simulcasts, and for "satellite stations" (such as those operated by many state educational networks). My 1984 copy of the rules did include such an exemption, but it had disappeared by 1992. Thus, under the current rules, AM/FM simulcast stations must run separate station identifications, contrary to the checklist.

The checklist points out that 73.3526(e)(8) (though the checklist lists it as (e)(6)) requires broadcast stations to have the publication "The Public and Broadcasting" in their public inspection file. Consulting FCC Report and Order 98-175, which recently modified the main studio and public inspection file rules, we find:

With respect to our first proposal

regarding the 1974 manual "The Public and Broadcasting," we will no longer require licensees to maintain this out-of-date document. But we concur with MAP that this volume should be replaced with an updated version. The new manual will describe our new requirements regarding the contents of the public file, and discuss ways in which the public can help monitor licensee performance. We believe that this updated manual will provide a useful description of the documents that are available for public inspection, and will facilitate interaction between licensees and their communities that may lead to improved service to the public. The commission staff will prepare the manual, and issue a Public Notice notifying licensees when it is complete. The commission will place the new manual on its World Wide Web site on the Internet, where it can be accessed and downloaded by licensees and the public. We will require all commercial and noncommercial licensees to replace their 1974 manuals with the updated version when it is available.

Check out the Web

"The Public and Broadcasting" is now available in WordPerfect format at www.fcc.gov/mmb/prd/docs/manual.wp

The checklists contain a rather detailed description of the required contents of the programs/issues lists. My review of station violation notices indicates that many stations have difficulty complying with these requirements. Stations should pay special attention to this section of the checklist (and the rules!).

One item the FCC clarified in its last revision of the rules on the public inspection file has to do with the retention of e-mail from the public. Both the rules and the checklist now state that stations must place e-mail received from the public regarding station programming in the public inspection file (see 73.3526(e)(9)).

Main studio staffing

I have long felt the commission was enforcing a nonexistent rule in its main studio "staffing level" requirement, 73.1125 (Main Studio Location), even as amended last year, makes no mention of a staffing level. When the rule was revised in 1987 (2 FCC Rcd 3215 (1987)), seven petitions for reconsideration were filed. The 1987 revision removed the program origination requirement, so it became unclear as to exactly what a "main studio" was. In response, the FCC wrote:

A station must maintain a main studio which has the capability adequately to meet its functions of serving the needs and interests of the residents of the station's community of license. To fulfill this function, a station must equip the main studio with production and transmission facilities that meet applicable standards, maintain continuous transmission capability, and maintain a meaningful management and staff presence. The term "main studio" continues to designate a broadcast station's only studio when no auxiliary studio is maintained. If a

station has two or more studios that meet the applicable criteria, it may select one (within its community contour) to designate as its main studio.

This was further clarified in Jones Eastern of the Outer Banks Inc. (6 FCC Rcd 3615 (1991)). Jones Eastern had one studio within the permitted area and another outside. They claimed the one in the permitted area was its "main" studio. In deciding which one was the main, the FCC stated:

We find that a main studio must, at a minimum, maintain full-time managerial and full-time staff personnel. This is not to say that the same staff person and manager must be assigned full-time to the main studio. Rather, there must be management and staff presence on a full-time basis during normal business hours to be considered "meaningful."

A little later, in Jones Eastern (7 FCC Rcd 6800 (1992), footnote 11), the commission states:

We are fully aware, as NAB demonstrates, that a significant body of stations have only a limited number of employees. For example, 5.8 percent (approximately 640) of all radio stations are said to have two or fewer employees, while 18.7 percent (approximately 2,060) have four or fewer. Unlike WRSF, stations of this size will generally not have more than one studio. In such circumstances, where the employees report to work to the main studio, we have no intention of limiting their ability to leave the studio to conduct station business.

Based on the record, I question the validity of specified staffing levels at the main studio of stations that have no other studios. However, 73.3526(c)(1) says, regarding the Public Inspection File, "The file shall be available for public inspection at any time during regular business hours." This rule does indeed appear to require a minimum staffing level, since station staff are required to assist the public in using the file.

The checklist includes a good summary of the rules on tower registration. It also references the reader to a Web page at the FCC dedicated to this subject.

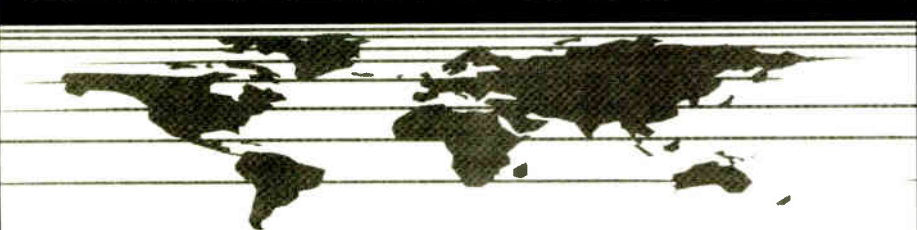
Unfortunately, the URL has changed from that specified in the checklist. The correct URL is www.fcc.gov/wtb/antenna

The checklist and the Web page continue to state, "When the tower is located where the number cannot be seen without access to the property on which it is located, then the number should also be placed on the gate or fence leading to the tower where an outside observer can see it." As further discussed in Insight On Rules #99, neither the rules nor the report and order establishing the rules include such a requirement.

The checklist states, "Only one EAS decoder is required for combined facilities operating from one common location, such as a co-owned and co-located AM and FM studio." However, 11.52(c) requires that shared EAS equipment be shared only among co-located and co-owned broadcast stations. Thus, LMA stations must each

See RULES, page 71 ►

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Diversity and Coax

► LAMPEN, continued from page 63
the tourists. They had a simple wireless mic receiver in the rack in the studio and a piece of low-loss RG-8 going to the roof where the antenna was installed.

If they had wanted to, they could have replaced that omni whip antenna with a yagi — on the correct frequency, of course — and had a range of several blocks in the direction of the yagi! But the trick was getting the antenna on the roof. Line of sight is the name of the game.

Be aware of connectors on the receiver. Most often they will require a PL-259 ("UHF") connector on the cable in low-frequency application. This is an imped-

ance-non-specific connector, but at frequencies below 500 MHz (wavelength 0.6 meters or two feet), a two- or three-inch connector makes little or no difference.

Just be sure that you get the correct size connectors to fit the cable you want to use!

Wireless systems

Higher-quality (and higher-frequency) wireless systems often use BNC or N connectors. These are both specific 50-ohm low-loss connectors and there is a particular one for each cable. The N connector is an excellent performer, although it is larger and is also more expensive.

You might want to check with your

local distributor or connector manufacturer to be sure the cable and connector choices you have made are matched. You will also be spending money on stripping tools and crimping tools for this cable, if you don't already have them.

You can always have the cables made to order, which will be an expensive proposition. Labor, after all, is a key part of the cost. And if you make them yourself, it's your labor.

By the time you price just a few cables, you may find it is cheaper to buy the tools and do it yourself, unless you absolutely never will use them again. It only takes a few projects to justify their purchase!

You can get cable strippers which can handle a large number of cable sizes

(inside and outside diameters) and you can get crimping tools which have replaceable jaws. You don't have to buy the tool over again for your next project, maybe just a new jaw insert for that different cable.

In our next installment of WIRED FOR SOUND, we will end our discussion of diversity antennas and take up a new use for coax: digital audio.

■ ■ ■

Steve Lampen is technology specialist, multimedia products for Belden Wire & Cable Co. in San Francisco.

Lampen's book is called "Wire, Cable, and Fiber Optics for Video and Audio Engineers," is published by McGraw-Hill. Reach him via e-mail to slampen@aol.com

► RULES, continued from page 70

have their own EAS equipment.

My review of recent violation notices issued by the FCC indicates that they are, in enforcement, requiring stations that are running unattended to have equipment that automatically shuts the station down within three hours should the transmitter operate in an interference-causing condition.

Notices of Violation

Upon receiving Notices of Violation citing this requirement, several stations have discontinued overnight operation. However, this requirement is not in the rules (see 73.1400(b)), which specifically authorizes unattended operation without automated equipment if "the equipment employed is expected to operate within assigned tolerances for extended periods of time."

The checklist takes a new approach: "In the latter case, the licensee is required to make certain that the station is monitored frequently enough to ensure that station operation is corrected or terminated within the designated three-hour or three-minute time limits, but constant human supervision is not required."

No action taken

This appears to suggest that stations operating unattended based upon equipment stability are required to read transmitter parameters every three minutes to every three hours. The difference between the wording of the rules and FCC enforcement of the rules prompted SBE to file a petition for declaratory ruling clarifying the rules. The petition was filed in April 1997. No action has been taken on the petition by the FCC.

Though not perfect, these checklists should give stations a good start on checking compliance levels. I supported the mail-order inspection back when it was introduced: it seemed like a cost-effective way for the FCC to determine which stations needed inspection. However, it appears it was not to be! The resulting checklists should prove valuable. However, when in doubt, read the rules!

■ ■ ■

Harold Hallikainen is president of Hallikainen & Friends, a company providing technical writing and electronic design services. He maintains a hypertext version of the FCC rules at www.hallikainen.com

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NEWS ANALYSIS

Webcast Audience: Good and Ready

Carl Lindemann

Webcasting is still in its infancy, but the audience for streaming media is an exceptionally responsive, lucrative marketplace for advertisers, and it is growing fast.

The latest Arbitron New Media/Northstar Interactive study of the Webcast audience shows that nearly half of these "earballs" — online viewers/listeners — purchase products advertised online.

According to Greg Verdino, vice president and general manager of Internet Information Services for Arbitron New Media, marketers should focus on their quality, not quantity.

Response

"While the audience for a single station might be small, these listeners are incredibly responsive both to the content and to the advertising in it," he said.

Understanding how to take advantage of these opportunities may mean importing business strategies from outside broadcasting.

"This is a small, but high-value audience. It's much more akin to a high-quality mailing list for a direct marketer," he said. Though small in terms of mass-market numbers, the streaming media audience has more than doubled since Arbitron's first Internet study last year.

The Arbitron study was released this summer at the second annual Streaming Media East conference in New York City. The data was gathered by surveying 1,527 Webcast users at the broadcast.com and Vtuner.com Web sites earlier in the month.

Unlike previous studies, this was not designed to look at Webcasting in the context of the Internet as a whole.

"The objective here was to really dig into the habits of known Webcast users," Verdino said. Broadcast.com and Vtuner.com were selected because they serve as "portals" to a wide variety of content — radio stations, TV stations, Internet-only Webcasts, and on-demand content.

"We wanted to look at sites that are aggregators, and so provide a more representative sample because people use those sites to access all kinds of different Webcasts," said Verdino.

The survey distinguished between audiocasts and videocasts. It revealed

that over three-quarters (77 percent) of online listeners preferred music formats. News formats were the second most popular at 64 percent.

Of these, 74 percent tuned to streams sent from beyond their local market; 56 percent listened to local radio signals being Webcast. The average time spent

from six months ago. Seventy-five percent planned to spend more time listening in the future.

Videocasts were less popular. Some three-quarters of the viewers watched only up to 30 minutes weekly. Not quite half planned to watch more in the future.



Communication was key at the Streaming Media East Conference.

listening was 65 minutes a week. Eighty-six percent indicated this was an increase

Understanding how to take advantage of these opportunities may mean importing business strategies from outside broadcasting.

The audience was predominantly home-based (63 percent), with the next largest block at work (47 percent). Verdino said this was in keeping with earlier research.

Prime-time usage

"As the day goes on from morning drive to prime time, Webcast usage does trend up. Prime time is when usage is heaviest. Obviously, you're usually home in prime time — not the office," he said.

This may not entirely be due to audience preference.

"We have to bear in mind that there are still a lot of companies that are restricting at-work Internet use — espe-

cially streaming media. It does tie up a lot of bandwidth at this stage of the game," Verdino said.

At present, one prime venue completely off-limits for Webcasts is in-car listening.

"We're probably two or three years away from any viable, portable livestream," said Verdino. "That technology just doesn't fly now. But like the rest of the Internet, this will open up. There will be faster portable devices," he said.

Despite these limits, the study asked if portability would increase time spent tuning into streams. The response wasn't as remarkable as how prevalent the interest was.

"We weren't surprised that people responded positively to portability, though 75 percent is pretty strong," he said.

In-car listening may manifest in the form of streams recorded at home, then played through the car stereo.

Tracking such on-demand content was beyond the boundaries of this study. Strictly speaking, this is different from what is traditionally thought of as "radio."

See WEBCASTING, page 80 ▶

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Community Stations Meet in Maine

John Montone

Is community radio the Rodney Dangerfield of the broadcasting world?

Marty Durlin, the general manager of KGNU(FM) in Boulder, Colo., seems to think so. Durlin expressed her disappointment at comments made by officials from the Corporation for Public Broadcasting at the National Federation of Community Broadcasters' Convention in San Francisco this past March.

Durlin said the CPB chastised community stations for "not being in step with public radio ... not emphasizing an increased audience." It was a warning that Durlin interprets as meaning that a significant source of funding for community stations may be in danger.

Meeting in Maine

Community radio executives and independent producers will gather at the College of the Atlantic in Bar Harbor, Maine, from Aug. 20-23 for the 4th Annual Grassroots Radio Conference. They are faced with mounting pressure to draw more listeners and thereby have a greater pool of paying members.

Durlin's station relies on contributions from its listeners for 60 percent of its budget while receiving 20 percent from the CPB, 15 percent from special events such as concerts, lectures and book sales and 5 percent in underwriting grants.

Durlin expects a lively debate about "whether to go to a market-driven model," as opposed to the so-called open-door policy in which listeners are encouraged to take to the air — an approach now favored at most community stations. She thinks the consensus will be to stay the course, "stick to it and do the best we can."

Her concerns are shared by Cathy Mielo, general manager of WERU-FM in Blue Hill, Maine.

"We want to expand our audiences but not at the sake of our mission or programming," Mielo said. "We won't change that."

Eclectic radio

Can community stations have it both ways?

Durlin isn't sure, but Mielo believes so. She is optimistic based on her own experience. WERU broadcasts in a popular tourist area. Every year, she

We may actually be ahead of the consultants in terms of knowing that people enjoy this type of radio.

opening up the airwaves to "voices unheard on other media."

"Peace activists talking about the bombing of Belgrade, welfare mothers, national Native American news, gay and lesbian issues, dissident intellectuals and alternative health issues," she said by way of examples. "Marginalized opinions get a voice."

But in the same breath Durlin admitted that the mission of community radio, "to

— Cathy Mielo, WERU-FM

says, vacationers call or stop by the station to tell the staff how much they enjoy listening.

Mielo cites community radio success stories such as WMNF(FM) in Tampa, Fla., KMUD(FM) in Garberville, Calif. and WORT(FM) in Madison, Wis.

"We may actually be ahead of the consultants in terms of knowing that people enjoy this type of radio," she said.

Part of the challenge for community programmers is that it is hard to define what Mielo means by "this type of radio." "Eclectic" and "accessible" are terms that community radio executives use.

Mielo said, "Diversity is the strength of community radio, not only of opinion, but of music. We respect our listeners enough to do that."

Diversity of music means a community station may offer programs featuring such musical styles as jazz, folk, blues, Cajun, world music and ragtime. Diversity of opinion, Durlin said, means

open our doors to the community," is contributing to its problem of not drawing a large number of listeners.

Cash flow

"Some stations are dying off," she said, "because the politics around federal money emphasize audience building. The big public stations are getting the lion's share of the funds."

While acknowledging cash flow difficulties at many community stations, Mielo said lack of money is not her greatest fear. She is more concerned that some stations may lose sight of their mission.

And Mielo does not believe that maintaining a varied program schedule and giving voice to the voiceless are at odds with attracting a larger audience.

"We have an excellent relationship with our local business community," she said. "They underwrite and give support, but we don't want underwriting to become commercial, so there

are no mentions of water bed sales, but we do list the businesses in our program guide."

One broadcast development to be discussed in Bar Harbor could produce more community stations and listeners in the future.

"We would like low-powered radio stations to become community stations," Mielo said, referring to proposals before the FCC to allow such new stations soon. "Our stations could become training grounds for new (low-powered) broadcasters."

Another topic expected to come up is the Internet. As more stations offer programming online, Mielo believes, people like the vacationers who listen to WERU will begin to tune in when they get home. Durlin points to WWOZ(FM) in New Orleans with its spicy local music fare as a favorite Web site for online listeners.

Community proponents remain loyal to their vision.

"As the media has become more closely held by huge mega-corporations," Durlin said, "we assume more importance. We are the last bastion of community access."

The strategy of allowing listeners their voices in programming decisions and on the air is unlikely to greatly increase a station's audience, but it may guarantee a small but steady following.

"Public radio should give people access to the airwaves," said Mielo. "They got away from that. Grassroots community stations are honoring that."

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PROMO POWER

Dirty Words: 'Sales Promotion'

Mark Lapidus

The salesperson explained the promotion to me.

"I've got this really great contest that my client wants to do with the station! We go on-air and tell our listeners to go to any of their five easy-to-find locations and register to win concert tickets.

"All we have to do is come up with the concert tickets, registration materials, signage, put about 30 promos on the air and we'll get on the buy," he said.

"This is pretty simple, right? The station doesn't even have to be on any of the materials or mentioned in the contest!"

I explained to him that these types of announcements have a name. They are called commercials.

Bonus spots

Our discussion continued down a well-worn path.

"But if I do it this way, I can use sales promos and the client will be really happy with all those extra spots."

Next stop: the general sales manager's office. She immediately grasped the situation and gave him a lecture about selling the station for its own value and concluded the talk with the difference between a client promotion and station promotion.

He left to think it over. She figured the discussion was over and sat down. I asked her to fill me in about how the station had created special "sales promotion" inventory.

She explained that the station did so many client promotions that the only way to squeeze them on-air was to use an extra spot per hour. When I asked her if she'd rather sell that spot as regular inventory rather than bonus it, her predictable response was, "You bet."

This simplistic story is repeated regularly at radio stations around the country. Somehow the notion of "sales promotion" has mutated into bonus spots that aren't even counted as inventory.

Let's not forget that, to most listeners, these units are just like any other commercial. You can help stop this madness!

Fix-it list

Don't do sales promotions.

Before you use this article for your birdcage at home, consider how newspapers, magazines and most television stations deal with this issue: they don't. They claim that they can't afford to do added value because they just don't have the space.

Well, guess what — neither do we! While we may not be able to extricate ourselves totally from this issue, there are steps we can take that will move us down the right path.

Here are five ways to eliminate sales promotions.

First, accept only sales promotions that have true listener benefit. This may be monetary savings or something of value which is free; it could also be a fun activity. The benefit *must* reflect the image of your radio station.

Second, eliminate all allocated sales-promotional on-air inventory. If you are not willing to do a so-called "sales promotion" in your regular promotional inventory, you shouldn't be doing it in the first place.

For a reality check, have your GSM calculate how much the spot rate drops when he has to add extra commercials to make up for those things you used to call "sales promotion spots." Wouldn't he much rather be selling those units?

Don't ever offer a promotion to a client who "just wants a promotion." If the client or agency has no clue as to what they want to accomplish with their promotion, how can you possibly satisfy their needs? It is important that the salesperson fish for a client's goal, but be prepared to cut bait if something tangible doesn't emerge.

The chase to figure out someone's needs is not unlike dating someone who has no idea what he or she wants from life. It's frustrating.

Plan promotions

Fourth, plan promotional activity annually and include a sales angle for every major station activity. If promotion and program directors don't pilot the ship, a sales department has no option but to grab the wheel.

Fifth, educate salespeople to understand that just as it's their job to obtain the highest possible rate, it's also their responsibility to protect the station from

ridiculous requests for "added value."

Money is burning every time people meet to dream up a promotion for a client who has no idea what they want, or for a client who wants something so ridiculous that they don't even want to mention it in their own commercials.

Will the day of bonus/bogus "sales promotions" ever draw to a close? Perhaps not, but we can all do our part to minimize negative impact. Also, let's keep a close watch on our brethren in satellite radio to see how they deal with this issue. If they truly are rocket scientists, they'll refuse to open Pandora's box.

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-Kevin Lockhart, PSI President



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RADIO ADVERTISER

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James Careless

KINeSYS Pharmaceuticals is a small company with big dreams. Located in Vancouver, Canada, it manufactures skin care products for athletes: premium items like sunscreen, sport body wash and analgesic muscle balm.

Currently, KINeSYS markets its products in Vancouver. With the help of local radio, it has driven sales up to \$667,000 in the last year. Not bad for a company started by a pair of personal fitness trainers in 1992, to supply products to their own clients.

However, KINeSYS wants a piece of

the \$500 million-plus U.S. sunscreen market. That's why it has signed a \$333,000 advertising contract with NBG Radio Network of Portland, Ore.

The strategy is to launch KINeSYS products west of the Rockies for the 2000 season, and then to the entire United States the next year. The goal, said KINeSYS Vice President Josie Kletter, is to quintuple sales within the next 18 to 24 months.

Radio value

KINeSYS chose radio because "we can get a high repetition" of ads for a good price, Kletter said.

"We also are able to focus it to different target groups, and really focus it: for example, if we're sponsoring a fitness program on the radio by Richard Simmons or a golf program on radio, then we're really targeting our key market."

All told, "the value for the dollar really has been in radio for us."

Why did KINeSYS choose NBG Radio Network, rather than continue to handle its own advertising?

"The deal with NBG is particularly attractive because we are entering new markets," Kletter said, "and for me to deal with a huge number of stations

would be logistically really difficult."

Another reason KINeSYS may have chosen NBG is because this company put its money where its mouth is. Specifically, rather than being paid cash by KINeSYS, NBG is taking 500,000 shares of the manufacturer's common stock instead.

"I looked at their product. I used their product. I was very impressed," said John Holmes, the president and CEO of NBG. "That's why we entered this agreement."

With NBG's fortunes tied directly to those of KINeSYS, Holmes is motivated to do his best for this client. After all, "if this company takes off, it's going to benefit us even more," he said.

"If it doesn't work, it could possibly hurt us regarding earnings, because we're a public company. So we want this product to work, and we're going to see it through and make it happen."

Holmes' strategy is to generate as much heat as possible for KINeSYS, by promoting it on NBG's syndicated radio programs.

The skin care company is betting that partnership with radio will bring big gains in U.S. sales.

These include "The Rick Emerson Show," "Teen' It Up," "The Ed Tyll Show," "Fastbreak with Steve Jones," and a number of other shows on NBG's Active Network 234 and Sports Network 223. All hit the "younger athletic-type demographic" that is most likely to buy KINeSYS products.

One or more of these programs are heard on more than 2000 U.S. stations, he said, which means KINeSYS should achieve "99 percent U.S. coverage" in the year 2001.

Talent involvement

But there will be more than generic 30- and 60-second spots extolling KINeSYS' virtues. John Holmes intends to give his hosts samples of KINeSYS, with an eye to them delivering product testimonials "if they like it."

If they do, Holmes believes their endorsements will help drive sales, especially on talk radio. In that format, "if the host tells you to do something, it's almost like the listener will go out and do it."

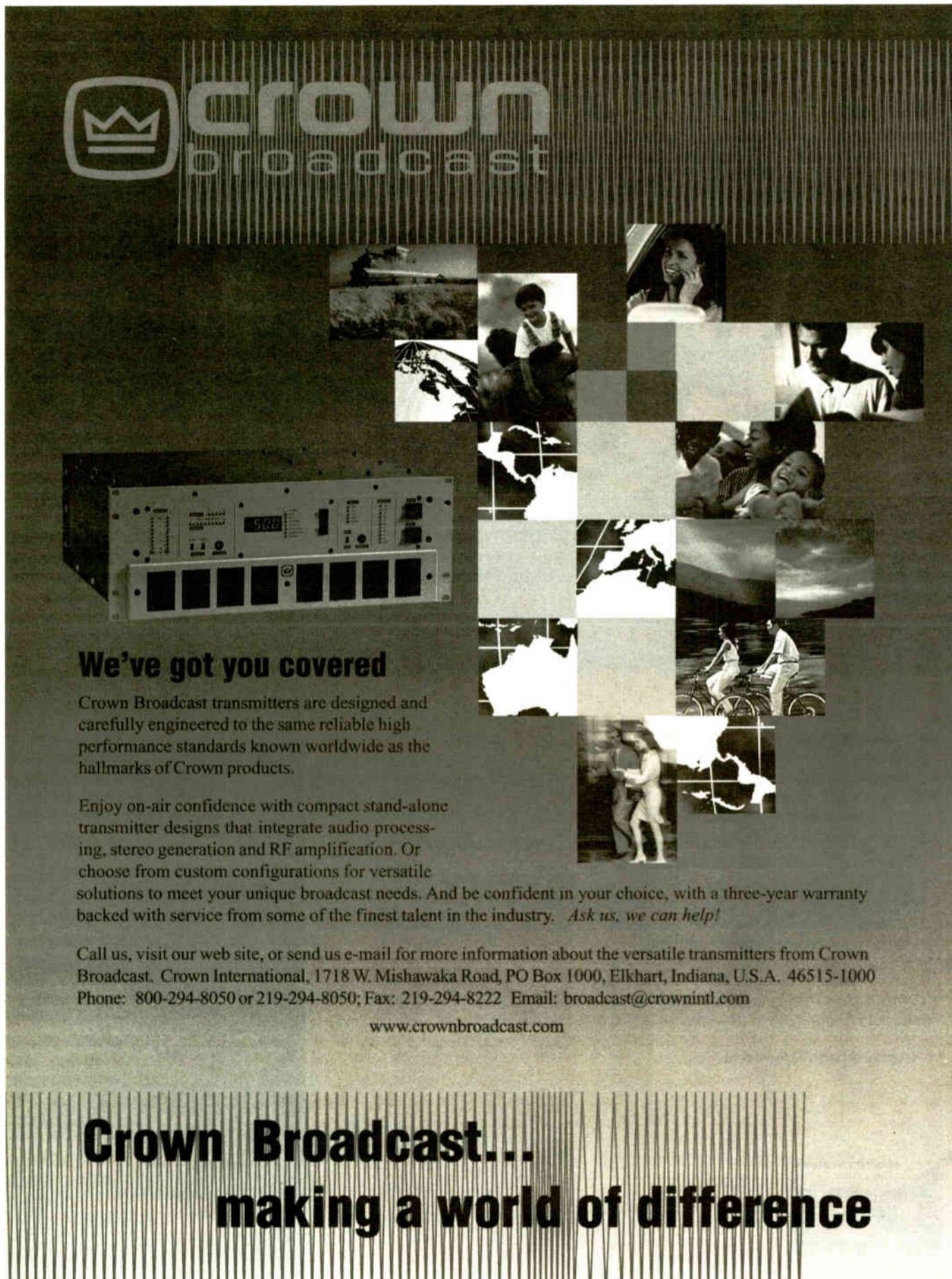
KINeSYS will also be advertising in print and TV when it launches next year. However, both Holmes and Kletter said that those campaigns will be limited in scope, with radio leading the charge into the United States.

Will it work?

Certainly Holmes believes it can. In fact, as soon as KINeSYS is available in the United States, he said, "We're going to make them use that product by ramming it down their throat with radio advertising."

■ ■ ■

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News From the Net: Risky Business

Peter M. Zollman

Don't follow Kim Komando's advice. Ordinarily, Kim's a great columnist for *Radio World*, and almost everything she says about computers is right on target. But what she said in her column a few weeks back — about finding news sources online — could get you and your station in big trouble.

Kim said it's easy to find news background, experts and stories to cover on-air — just by a few clicks of the mouse. She was absolutely right. But if you use that material on-air, your license or your wallet could be in jeopardy.

"Just because it's on the Internet does not mean that it is free to use, particularly in a commercial manner," said Jonathan I. Ezor, a new-media attorney.

Radio stations, he said, "should treat the Internet like any other news delivery medium, from fax to teletype to listening to the competition's newscast.

The facts

"The facts themselves are not protectable — there's no copyright on '223 Elm Street is currently on fire' — but the way the event is described probably is. Reading Web site news articles as if they were wire service copy is a bad

idea if the site owners are not properly compensated."

Radio stations have been ripping off news copy for years, of course — from reading the local daily newspaper for story ideas (and actual stories), to watching TV for news and weather updates, to the latest form, Internet piracy. And radio stations, too, have been ripped off.

But that certainly doesn't make it the right thing to do.

States case

In a recent case, States News Service shut down its state news feeds, distributed by ABC Radio and Reuters news service. States said it killed the service because some of its "stringers" — regional freelancers — were copying AP material and sending it to States (see sidebar).

Ezor, of the Uniondale, N.Y., law firm Farrell Fritz, P.C., said it's not enough to attribute your on-air use of Internet copy to the source, such as "C-Net is reporting." In fact, that could bolster the case against your station.

"Consider this," he said. "If the station



law firm Leavy Rosensweig & Hyman in New York.

Friedman said fair use is subject to four criteria if a challenge gets to court, along with others that may be considered by a judge:

- The purpose and character of the use by the prospective infringer — in particular, was something "transformative" done with the work?
- The nature of the copyrighted work — for example, is it factual, fiction or commentary, and was it published or unpublished?
- The amount of material used, and whether it is "substantial" — in other words, did you use all of the material, or even if you only used a little, was it the "essence" of the work?
- The effect of the use on the market for the work — that is, did your use diminish the market value of the copyrighted piece?

"If you're relying on fair use, you had better be sure that you pass the above test, because if the fair use defense doesn't work, you will be found liable," Friedman said.

In addition, as the radio world increasingly moves into digital formats, there may be a new issue: inadvertent misuse.

News organizations at companies like CNN, Tribune and Belo can now move content around from desktop to desktop, sharing news and other content "assets" among their properties in various cities and media.

The problem is that some content — particularly audio and video assets — may originate from a variety of sources, each with its own set of usage restrictions. To deal with this, companies attach hidden metadata tags to these assets, so that when a user selects a piece of content, accompanying information alerts him/her to the sources and accompanying restrictions.

The Associated Press, which is See NET NEWS, page 79 ▶

Stolen From the AP: Another News Service

Even the big guys can get in trouble when it comes to copyright and "commercial misappropriation."

A four-year-old news service, originally established to compete with the Associated Press on state news coverage throughout the United States, shut down in June because many of its stories were being lifted directly from the AP wires.

States News Service killed its regional reports — which were also distributed by ABC Radio and Reuters news service — after the AP presented States President Leland Schwartz with the results of a detailed six-month investigation of the service.

AP said it was negotiating with all three companies for damages, although Schwartz said "I can't imagine" that States would pay a monetary settlement.

Schwartz admits it was a simple case of theft.

"Some of the stringers who didn't seem to grow up with the same journalistic ethics that the rest of us did literally lifted AP's material in an obvious violation of fairness and AP's copyright," he told *RW*. "I want to stress that it was only a handful of them."

States, which is based in Washington, D.C., used about 75 stringers nationwide to file its state reports.

"There's just no excuse for it," Schwartz said. "We were all upset about it — from AP to us."

Reuters, which was instrumental in development of the state reports from

States at their inception, issued a statement noting that it redistributed the content but did not originate it.

"Some time ago, ABC and Reuters became aware of allegations of some instances of unauthorized use of copyrighted material by States News and cooperated with all parties involved in an attempt to prevent any further problems. When the issues resurfaced in June this year, the decision was made to discontinue delivery of States News Service content," said spokesman Robert Crooke.

AP executives said they were concerned about a potential infringement problem for several years, and had approached States on other occasions, but couldn't determine for sure that the content was being stolen from AP until States' articles began running on Yahoo!, Lycos, Excite and other Internet sites.

AP attorney Andy Deutsch said this was more than a case where a radio station reads a few AP stories on the air even though it doesn't buy AP service.

"This was a competing news service that was taking AP material and selling it in competition with AP."

States will remain in its original business, which includes collection of news in Washington about states and regions for local broadcasters and newspapers. It has been in business for 25 years.

— Peter M. Zollman



Jonathan I. Ezor

is using the Internet as a way to avoid paying wire service fees, it's already admitting that news has a value, something which could act against it if the source Web site decides to take action."

'Fair use'

In copyright law, there is a doctrine of "fair use" — meaning portions of a copyrighted work may be used in a different context for certain acceptable reasons. However, those "fair use rights" are very narrow.

"Whether or not a particular use is 'fair' depends on the specific facts of the situation," said Jessica R. Friedman, an intellectual property attorney with the

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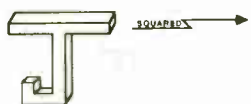
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GUEST COMMENTARY

Down Under: Radio in Australia

As the U.S. radio industry struggles with the question of low-power radio, one person watching with interest is Gail Bennett, Secretary of Valley FM Broadcasters Association Inc. in Calwall, Australia.

Her country has its own experience of what "community radio" means. RW asked Bennett to expand on recent comments she made to the online discussion group broadcast.net

Gail Bennett

Radio broadcasting has always been an interest of mine. I remember back in the early 1960s visiting the then-studios of 2GB in Sydney and recall the vast auditorium they had next door, where their plays and serials were recorded. How times have changed.

Until the early 1970s, Australia only had AM radio and two spheres of broadcasting — government and commercial. Unlike Britain, Australia has always had commercial radio. Actually, the very first radio station in Australia, 2FC, was owned by one of Sydney's major department stores — Farmer & Company. 2FC is now a member of the government-owned (and noncommercial) Radio National network.

Growing up

Growing up in Sydney in the 1960s was a very interesting time for Australian radio. Some stations were still producing and broadcasting serials and quiz shows, whilst a minority was "experimenting" with top 40 formats. The most successful radio in Sydney during the 1960s was 2SM. At the time, 2SM was owned by the Catholic Archdiocese of Sydney, but it was a top 40 station. In fact, 2SM had copied WABC and all of their announcers were "Good Guys." Two of the original 2SM Good Guys are still heard regularly on Sydney radio. 3AK Melbourne, 4IP Brisbane and 2HD Newcastle were other stations which adopted the Good Guys image.

FM broadcasting was introduced into Australia in the early 1970s and the first station was 2MBS, which is owned by the Music Broadcasting Society. 2MBS-FM is a station that broadcasts fine music (classical) and is one of a growing number of community-owned stations. Commercial FM radio was not introduced to Australia until the 1980s.

Following the licensing of 2MBS-FM, groups who were interested in establishing localized community radio stations emerged from all over Australia. Most of those groups now hold permanent com-

munity licenses, generally broadcasting on a power of 100 W. Some stations in rural areas broadcast on high power.

There are two main radio industry bodies in Australia. The Federation of Australian Radio Broadcasters caters for the commercial sector, and for community stations there is the Community Broadcasting Association of Australia. Licensing of radio and television stations is the responsibility of the Australian Broadcasting Authority (ABA). On management of the spectrum, the ABA works closely with the Australian Communications Authority.

In 1994, the Australian Federal Government introduced the Broadcasting Services Act. That Act has changed the Australian broadcasting spectrum entirely. Originally there were three categories of community broadcaster — specific interest, educational and community, and at the time they were called public broadcasters. Today they are all called "community." The licensee of a commercial station may now own two radio stations in the same market.

Narrowcasting and Open Narrowcasting are two categories of license that were

introduced with the Broadcasting Services Act. Narrowcasters can be commercial operations and operate just outside the normal FM broadcast band on around 87.7 MHz. Open narrowcasters operate within the normal broadcast band on a power of up to 100 W. Most narrowcasters and open narrowcasters operate entirely automated. Some have no studios at all. Some sound great. The type of programming offered by a narrowcaster may include country music, horse racing or classic hits, but generally they must provide a type of programming that is an alternative to what is currently available in a given market.

On air

I am the secretary of a community aspirant in the Tuggeranong Valley of the Australian Capital Territory. We were formed in January and we were seeking to go to air for the first time on June 11. We are fortunate that the Broadcasting Services Act allows aspirants to undertake temporary broadcasts. Those broadcasts may be continuous over a 12-month period, after which time and application may be made for license renewal. Temporary broadcasts may

be conducted until such time the ABA makes a decision about a permanent license. During the currency of temporary broadcasts, aspirants must prove there is a demand for the service in that area.

Community radio stations in Australia are allowed to broadcast up to 5 minutes of sponsorship announcements per hour. Some community radio stations broadcast exactly the same advertisements you may hear on commercial radio. The main variation is that community stations cannot broadcast product prices.

Most radio stations in Australia today are subject to some form of networking, either for news or programming, or both. This applies to government, community and commercial sectors. Most programming is distributed by satellite.

It stuns me to read the prices of equipment and products in the United States. A mixing console which may cost \$2,000 in the U.S. costs \$5,000 in Australia. We seem to pay a lot more than our colleagues in the U.S. or the Great Britain.

To view a copy of Australia's Broadcasting Services Act, check out www.aba.gov.au

Radio in Australia has definitely come a long way in the past 20 years and I await with interest the changes that will confront all of us in the industry with the introduction of digital broadcasting.

News From the Net

► NET NEWS, continued from page 77

probably the most ripped-off news agency because of the nature of its state and regional reporting, battles the problem consistently but tries to take a friendly approach when it learns of people using its copy without paying for it.

Sometimes, the not-for-profit news cooperative will dispatch a sales rep to the offender, and encourage the station to sign a contract at the going rates, saying something like, "We've noticed this (use). Clearly you find our service valuable. If you want to do the right thing, pay for it," said George Galt, director of business affairs for AP Broadcast Services in Washington, D.C.

If the station refuses to stop infringing on AP copy, "then it gets a little less friendly," Galt said. "We can take the gloves off if we need to."

Often, he said, infringement is not malicious.

"Most of what we find is a lack of education. People view things that are available on the Internet as free, so often it's just a matter of education. That's

when you get into educating them about both copyright issues and what's more broadly known as misappropriation," said Galt, who practiced as an intellectual property attorney before joining the AP.

"We make sure they understand they just can't take our content."

Andy Deutsch, a partner with the



Jessica R. Friedman

New York office of Piper and Marbury, who represents the AP in intellectual property issues, gave the example of a radio station that was caught infringing on AP's copy. After negotiations, the station and the AP signed an agreement

to end the infringement.

However, when the station was caught using AP material again, the AP sent a demand for, and collected, a payment for its services.

"It was not an insignificant sum," he said, but it was based on what the station ordinarily would have paid, "plus." He would only describe it as a "Mid-Atlantic music station," and would not reveal a specific amount.

"It is a regular and frequent occurrence that we find or hear of people who are using AP (material) without a license," said Galt.

Galt and Deutsch noted that if another news organization scoops you, it is probably acceptable and even "consistent with journalistic ethics and good practice," to attribute those occasional items to the organization that broke the story.

But regular use of unlicensed news material, whether it's from the Internet or your local daily paper, could get you in big trouble — or land you a big bill from the news source or your lawyers.

■ ■ ■

Peter M. Zollman is a consultant in interactive media based in Altamonte Springs, Fla., and founding principal of the Advanced Interactive Media Group, L.L.C.

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Study Highlights Streaming Event

► **WEBCASTING**, continued from page 73

Even so, Arbitron intends to expand their focus to observe such new-media intrusions.

"The lines blur. The issue is whether it takes away from the radio audience or not. If so, it's certainly our business — if not today, in the future," Verdino said.

"Arbitron is best known as the radio ratings people. In reality, our business has a far broader scope. We view ourselves as a multimedia information services company. Our initial work is on streaming media with a live Webcast focus. We are working with partners for developing the right metrics for on-demand programming," he said.

Who makes up the streaming media audience? The study showed that they resemble the makeup of the Internet as a whole, with one important divergence — gender balance.

According to Verdino, these early adopters of technology are similar to the Web population at an earlier stage of the Internet's evolution.

"Heavy Webcast users are still about 70 percent male. You get more geeks and freaks. Beyond that, the general Internet profile matches — 18-44, a bit more upscale and educated than the population, slightly higher presence of children."

For Verdino, the reasons for the difference is clear. Tuning into Webcasts is "still not as easy as flipping on a TV or radio, but some of those barriers are coming down," he said.

The findings are part of a larger study that will be released at the NAB Radio Show at the end of August. The "Webcasters vs. Broadcasters" presentation will take the streaming media audience research and see how it informs business strategy.



Greg Verdino

"One of the things we're doing is distilling down all the Webcast business models into an easy-to-understand sentence and gauging consumer reaction and interest to those kinds of Web sites," said Verdino. For example, it will compare the "portal" approach to local stations streaming their signals. The hope is to "come up with a 'best of all possible worlds' Webcaster model. What does

Arbitron think is going to win?" he said.

As in any new venture, there will be winners and losers in the Webcasting business. Despite the challenges of pioneering this medium, Verdino is certain that the potential payoff is worth the risk.

Stickiness and Streaming Media

The second Streaming Media East Conference took place over two days this summer in New York City. More than 100 presenters and exhibitors addressed both the practical and possible aspects of this new medium.

The theme of the conference could be summed up in one word: Stickiness.

Apart from the heat wave that smothered the city during the show and the impact it had on attendees, "stickiness" referred to what is perhaps the hottest aspect of streaming media.

Most people access Web sites in much the way they use a refrigerator. You step in briefly, find what you need, then back out. Typically, visitors pass through in just a few minutes before moving on to the next site.

The presence of audio and/or video

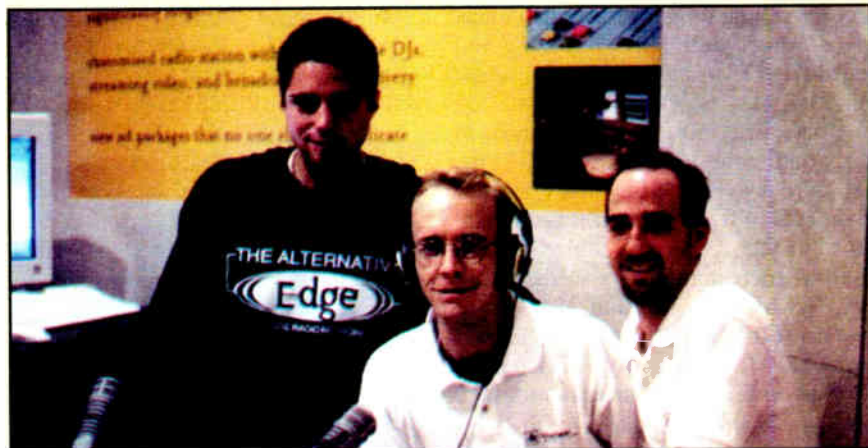
"People who are testing the waters and learning how to make the Web work for them today are the people who are positioned for success tomorrow when all of the technology lines up in the right way and bandwidth opens up for streaming."

As the opportunities become obvious, "it will be really difficult for someone just beginning to think about this to get into the market," he said.

MP3 audio and a new codec that provides a similar sound quality at half the data file size.

Other notable announcements included Virage Inc.'s Videologger and Audiologger software. These catalog and index audio and video streams so that the material is searchable in much the same way as text content.

Representatives from CNN, Fox News and C-SPAN were on hand to explain how this technology allows easier access to the information on their Web sites. Visitors do not have to sit through an entire recording to find a single sound bite. Instead, they can quickly locate clips by keywords and other standard search tools. This turns "dead" archives into an attractive asset.



The Alternative Edge, part of the Lycos Radio Network, streamed from the event. From Left: Sam Stock, Program Director, Scott Boylan, Director of Radio Operations, and Andrew Rosenberg, Director of Studio Engineering

on the site can change this drastically. Visitors may stay at a site for extended periods. Often, they may be conducting other tasks on their computers while listening to a streamed signal in the background.

Microsoft's Windows Media Technology was a centerpiece of the exhibitions. A soundproof booth allowed a direct comparison between

Another notable trend at the conference was the increasing number of "traditional" broadcasters who had left established media for opportunities online. As this accelerates, the competition for talent and technologists between broadcasters and Webcasters is likely to become intense.

—Carl Lindemann

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Page 85

Radio World

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August 18, 1999

PERSONNEL PROFILE

Cipriano Thrives as the 'Voice'

Ken R.

Have you ever heard someone in radio say "I gotta get out of this business. But what would I do?"

With mega-mergers, satellite formats, automation, downsizing, out-sourcing and all the other little joys of the broadcast industry, more and more colleagues are looking for the exit door.

Some people leave the business entirely, but many segue into related fields such as research, free-lance voice work, consulting, contract engineering, mobile music, recording or the Internet.

Fruits of hard work

The industry joke is that the definition of a free-lance announcer is a jock who's been fired.

In some cases, getting canned could be the start of a new career, but it's not that simple. The ones who "make it big" work hard at it and dedicate themselves to their profession.

One of the most successful free-lance announcers with roots in radio is Joe Cipriano, whom you may know as the voice of the Fox Television Network.

In addition to handling these chores almost since Fox signed on, he also is heard voicing comedy promos for CBS and UPN. His TV credits include "Honey I Shrank the Kids" and "Third Rock from the Sun."

Cipriano still keeps his finger in the radio waters with "The Leeza Gibbons Countdown," "After Midnight," "The Tom Leykis Show" and a host of liners for stations in San Diego, Detroit and Los Angeles.

Cipriano used his radio gigs as entry into the world of voice-overs.

"While I was at WKYS(FM) and Q-107 WRQX(FM) in Washington D.C. I would dub spots to cart and tag them," he said. "I'd write down the names and addresses of every single ad agency from the tape boxes, then send them my demo tape, made in the station production room.

"My reel had spots on it that had actually aired, as well as 'made-up' spots to

show what I could do. I just kept sending them out until I got work."

Role of radio

And even though he did get announcing work, he wasn't ready to give up on radio.

"I knew I wanted to do this voice-over thing full-time, and decided Los Angeles was the place to be. But I didn't want to be just another out-of-work actor-type," he said.

"I sent out airchecks to every L.A. station and just kept at it. I was finally hired by KHTZ(FM) to do afternoons. I always



Joe Cipriano

respected my radio jobs because they allowed me to pursue my career in voice-overs and I owe a lot to radio for supporting me all those years.

"We never ended up starving."

I was surprised to find out that when he was growing up, Cipriano had his eye on another medium.

"I always wanted to be on TV, actually. I had a national commercial for Prego Spaghetti Sauce with the actress who played George Costanza's mom on 'Seinfeld' before she was famous. I was also a co-star on 'Knight and Daye' on NBC during the summer of 1990.

"We followed Cosby and had top-10 numbers, but not the right numbers in the 18-34 demographic. I played the part of Marty in the Morning, a wacky DJ."

While Cipriano had one foot in the TV world, his radio fires still burned, and were fanned by an idol who became a mentor.

"Danny Dark was the voice of NBC during its golden era of the 1980s and early 1990s. I got to know Danny about four years ago and now we are best of buddies. I respect him so much for what he did in his career and I think he is one of the nicest guys on the planet.

"He called one day and left a message on voice mail saying 'Joe-sie, it's Double D, listen buddy, I'm just hearing you everywhere. Congratulations, man. You deserve it!'

"To have your mentor become such a supporter is a remarkable thing. He is one special individual," Cipriano said. "He's such a great spokesman, he can never really retire. He still does those Keebler Cookie spots and a bunch of others. Hell, this guy used to be the Budweiser voice, as in 'This Bud's for You.'

"That's one hell of an account."

Representation

Joe Cipriano has a representative who lines up the voice gigs for him and negotiates on his behalf. How does one find such a person?

"Producers think you're not serious if you don't have representation," he said. "I started with a small agent, moved to William Morris, then to Tisherman and I've been with Rita Venarri at Sutton, Barth and Venarri for the past seven years.

"Rita's a legend and she was Ernie Anderson's agent forever and is well respected. When you are first looking for a rep, you just have to keep sending out those tapes. I can vouch for the fact that all tapes are listened to and considered. Agents live and die by new talent."

Cipriano advises newcomers not to overlook the benefits of working in radio.

See CIPRIANO, page 88 ▶

Promise, Problems Of 24/96

Carl Lindemann

If they don't already, most every digital editing software developer will offer products that support the new 24-bit, 96 kHz standard soon.

The primary push to higher resolution comes from the pro audio side of the industry. Whether it makes sense for radio production remains an open question. But any consideration of the improved sound quality has to be weighed against the costs involved in upgrading systems to meet the increased demands.

Upping the ante from the current 16-bit, 44.1kHz CD standard to 24/96 means more than tripling the demand for storage, memory and internal data transfer bandwidth. To handle this efficiently and effectively necessitates larger, faster hard drives, ECC (error correcting code) memory, faster processors and PCI soundcards.

Is it worth the investment? You decide.

First, 24/96 audio eats up enormous amounts of data. The wider data path at better than double the sampling rate eats up nearly 35 megabytes per minute.

In other words, if you're feeling that your current 4 Gig hard drive is just enough to handle your needs, you'll need to move up to a 14 Gig drive just to break even.

Can you get by with being more proactive in your archiving? Expect to use up a lot of CD-R media. You can shoehorn about 18

See 24/96, page 88 ▶

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Hey Mr. Whipple: Squeeze THIS!

Alan R. Peterson

I am quite amused to see actor and former gymnast/acrobat Dick Wilson return to television in his most recognizable role as Mr. Whipple for Charmin toilet tissue. There is something both funny and calming in seeing icons from younger days drop back in to civilization again.

In the recent past, the old boob tube has trotted out TV mommies Barbara "Cleaver" Billingsly, Shirley "Partridge" Jones and Florence "Brady" Henderson. It has rolled out a new Sam Breakstone to sell cottage cheese, and somehow brought Col. Harlan Sanders back from the dead to hawk some fried chicken.

And of course, there is the "new" Addams family, the "new" Munsters, and any day now, the Ty-D-Bowl people will bring actor Tim Kaliban out of retirement to reprise his role as the little man in the rowboat.

But there is something special about Mr. Whipple. And it is not simply his passion for squeezing a roll of toilet tissue until it goes "ma-ma" in supplication. I feel a certain kinship to the man, as his re-emergence coincided with the decision to commit a little squeeze-ology of my own on the job.

Feeling the pinch

We began feeling the pinch of limited space on our built-in-house automa-

We needed compression. But the most popular way to do it was not necessarily the best for our needs.

tion system's hard drive at cable radio station WEBR(FM), Fairfax, Va., even before we completed loading the rig with our freeform music format.

The PC we obtained to run our overnight cable programming had only a 2.1 GB drive. This sounded like a lot of space at first, but it rapidly vanished after several dozen promos and songs were dumped in.

Having full-bandwidth, 44.1 kHz/16-bit linear audio playback would have been a nice dream, but was impractical with the tiny drive on our machine. For the time being, we found it necessary to do what much of the real world does with digital audio, and compress it.

Our first choice was also our easiest: Alter the sample rate.

A typical 44.1/16 stereo WAV file eats up about 10.6 MB per minute. But when cut down to 22 kHz, the memory requirements drop to half that. As a cable radio station, our audio was most likely to pour forth from a single television loudspeaker, so the loss of the upper octave was not a concern; 22 kHz it was.

We then noticed that very few folks

would be hearing us in stereo, so a collapse to mono was also decided upon, which again halved our disk requirements. What once took up 10.6 MB was now one-fourth in size. We were doing okay, but there had to be more we could do.

The cry went up to begin converting all audio in the storage system to MP3-encoded audio files. After all, that is the preferred method of the moment,

We did not go the MP3 route. The answer for us was part of the Microsoft standard: ADPCM.

right? That is the big buzzword with free software and portable players available everywhere, making music available to the masses, right?

Well, yes and no.

MP3? Not for me

If you are transiting audio across the Internet, then file size and download speed is a more critical concern. The ability to crush a WAV file down to one-twelfth its original bulk is tempting.

I suppose if we had one standard in-house by which we would perform MP3 conversion, then all would be right with the world. There are a number of very good programs out there that perform compression very well and are worth their asking prices.

But as some of us audio tweekers know, there are hundreds of flavors of strippers, rippers, codecs, players and header-rewriters out in cyberspace that deliver dubious performance at best.

Jocks already circumvent station restrictions on loading their own material into our storage system. They would likely do so in an MP3-based automation rig with a freeware WAV/MP3 converter, at some ridiculous compression ratio chosen only to see "if it would really work." The automation, not familiar with some curiously headered MP3s, would stall out in the middle of the night.

We also have the issue of "zero to 60" performance, or just how fast our rig could decompress and segue MP3 files when called for. The year-old Antex card in our PC can do MP2 files just fine, but looks at us cockeyed when we throw an MP3 at it.

And don't even bother trying to edit an MP3 file. The only program I have had any luck with has been XTrack from Digigram. There may now be more available, but editing an uncompressed WAV file is still as easy as it gets.

To make a long story short, we did not go the MP3 route. The thing was, we needed compression. But the most popular way in the world to do it was not necessarily the best for our needs.

The answer for us turned out to be a method that is part of the Microsoft standard: ADPCM.

With no effort on our part, ADPCM compresses WAV files to a one-size-fits-all 4:1 ratio. There is a clicker in Cool Edit Pro and Cool Edit LE that saves

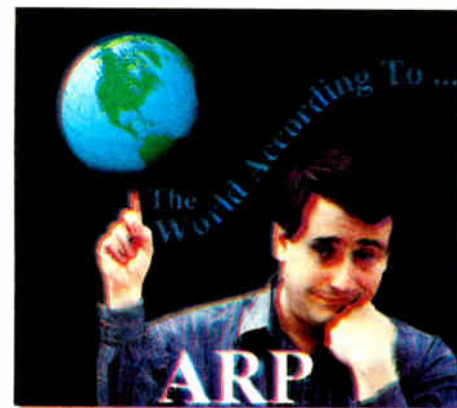
work immediately as a four-bit ADPCM WAV. There is no intermediate step of converting a completed WAV to an MP3.

The format can be read by any audio program that reads conventional MS WAV files (oddly enough, except for SAW). Its zero-to-60 performance is fast enough for instant playback of any audio event we desire.

And it saved a pile of disk capacity.

As an example: A four-minute stereo song at 44.1 kHz /16-bit would occupy about 42.4 MB of drive space. Our mono, 22 kHz version pulled that figure way down to 10.6 MB. An ADPCM version of that same four-minute ditty is a mere 2.65 MB.

Where I come from, it means we could theoretically fit close to 790



four-minute songs onto that 2.1 GB drive in our machine. It also means it is possible to fit a two-minute aircheck demo onto a common 1.4 MB floppy disk. Nice trick.

Of course, all of those mathematical gymnastics probably were unnecessary. When the prices got good, we sprung for a 16 GB drive, allowing capacity for approximately 6,000 songs in ADPCM format and not an MP3 in sight!

Which is okay by me. Gymnastics were once Mr. Whipple's domain in a younger day. For now, I'll squeeze music, and he'll squeeze toilet paper.

I'll bet I know whose hand you would rather shake.

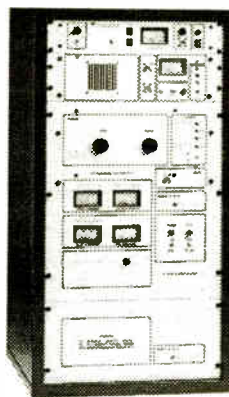
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Alan Peterson is a technical adviser to RW and the manager of technical systems for Fairfax Cable Access Corp. in Fairfax, Va. WEBR(FM) can be heard at www.fcac.org/webr

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◆ PRODUCT GUIDE ◆

Products for Radio Production

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Shure Updates a Classic

The SM7A from Shure is an improved version of the popular SM7.

This cardioid dynamic mic is suitable for broadcast and voice-over work, radio talk shows and news desks.

Frequency response is posted at 50 Hz to 20 kHz. The company says the new model has the natural, clear sound of its predecessor. A bass roll-off switch, midrange emphasis controls, and internal shock isolation and pop filter are standard.

New to this model is a redesigned humbucking coil that adds better broadband shielding from hum generated by computer monitors and lights.

Also new: a lower price. Suggested retail is \$584.

For information, contact Shure in Illinois at (800) 25-SHURE, visit the Web site at www.shure.com or circle Reader Service 128.



Soundcraft Offers Digital Air Console

The RM1d is the first digital console for on-air studios from Soundcraft.

The company has positioned the mixer as an affordable and versatile package that can be configured in a variety of layouts. Channel set up is simple. The mixer can be configured for a specific show using a password, which will lock out all controls except the faders.

The RM1d is available in six- and 12-fader models. A 12-fader input extender "sidecar" is available.

The six-fader frame provides two mono mic/line inputs with selectable 48V and insert point, two analog stereo line inputs and four AES/EBU inputs, plus one S/PDIF input.

The mixer offers

two AES/EBU outputs and one S/PDIF output. (Double the input connector and output numbers for the 12-fader version.)

Each input channel has gain trim, three-band EQ, one stereo or two mono aux send, and pan control. Remote machine start interfaces are provided.

For information, contact Soundcraft at (615) 360-0471, fax to (615) 360-0273 or circle Reader Service 110.



DN-H800 Combines CD Carousel and Tuner

A new model from Denon combines a professional five-disc CD carousel and AM/FM tuner with RDS functions.

The DN-H800 occupies three rack spaces. The CD section features two pitch control buttons (+/- 12 percent), direct disc and track select buttons, and a large fluorescent LED display.

Play can be set to single or continuous; program play lets the user combine up to 20 tracks from the loaded CDs.

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The unit has a 30-station preset memory, timer on/off, headphone jack, tuner output pot, wired remote control terminal and unbalanced RCA and balanced XLR output connectors. Suggested retail price is \$690.

For information, contact Denon in New Jersey at (973) 396-0810, visit the Web site at www.del.denon.com or circle Reader Service 150.



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Manufacturer illbruck inc. invites clients to call for an eight-page brochure that discusses solutions to acoustic problems in broadcast and recording studios and other environments.

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company's Sonex and Prospec lines to minimize reverberation and reflection in the studio and reduce noise from ventilation systems and traffic.

The packet also introduces the new line of Contour acoustic ceiling tiles.

For information, contact the company in Minnesota at (800) 662-0032 or (612) 520-3620, fax to (612) 521-5639 or circle Reader Service 96.

Digital Processor

Transamerica Audio Group, the U.S. distributor for Drawmer, is shipping the 24-bit/96 kHz D/A and A/D 2476 Digital MasterFlow processor.

The company says this all-in-one programmable mastering unit combines founder Ivor Drawmer's expertise in tube and analog circuitry with digital technology.

The DC2476 offers compression, brickwall limiting and an equalizer backed by a gain management system. Once the input level is correctly set, the company says it is virtually impossible

to clip a signal no matter what processing is applied.

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For more information, contact Transamerica Audio Group at (805) 241-4443 or circle Reader Service 184.

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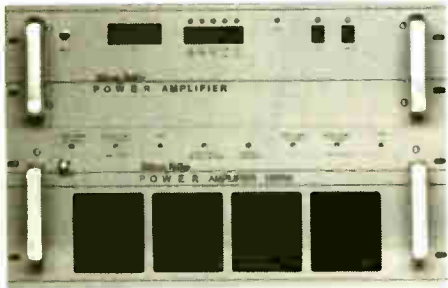


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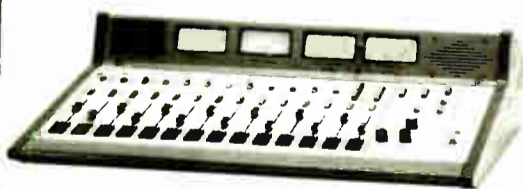
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24/96: Diminishing Returns?

► 24/96, continued from page 81
minutes of uncompressed 24/96 data on a standard CD-R. If you are thinking about going this route, it may be better to invest in the latest DVD recorders. Or, perhaps, compress the data into MP3 audio.

But what's the point in recording at this high resolution if you're just going to squash it with compression?

Adding additional hard drive space isn't enough. The typical hard drive — even the latest UDMA IDE drives or Ultra SCSI — just can't deliver enough data if you're doing serious multitracking. Better to go for the Wide Ultra SCSI, or, better yet, the latest Ultra2 SCSI units.

Ultra2 drives deliver up to 80 Mbyte/second — enough to carry the increased data load. Of course, you'll need an Ultra2 SCSI adapter card, too.

Memory

The need for increased data storage is matched by the demand for greater memory, preferably PC 100-compliant ECC SDRAM. Already, 64 megs is considered the bare minimum for running a Windows NT-based DAW recording and processing with 16/44.1 soundfiles.

Once again, 24/96 needs are much higher — say 256 megs! Just to be safe, throw in a few extra 128 meg DIMMS to bring it to 384 or even 512 megs. But adding such large amounts of memory leads to a few other complications.

First, most motherboards top out at three memory slots, usually at 128 megs each. For many systems, that makes for a 384-meg limit. The latest Intel BX chipset is capable of handling 1 GB of memory, but very few motherboard manufacturers offer products that can utilize the chipset's full memory capacity.

So you might have to get a new motherboard. If you do, make sure the chipset

supports ECC (error correction code) memory. As it happens, having such large amounts of memory makes the system increasingly susceptible to random data errors.

According to Jeff Mailloux, DRAM marketing manager for Micron Technologies Inc., cosmic rays knock out a few bits here and there, causing system "hangs." With more memory, the likelihood increases.

Network servers work through this by using ECC memory. The error correcting code design adds additional chips to the memory module that identify and rectify stray data errors. A typical 128-meg DIMM comes packaged as a 16x64 chip-set. ECC adds eight additional chips to become a 16x72 module. Be prepared to pay a 10-15 percent premium for ECC memory. It also drains an extra percentage or two of processor power to perform its function.

Computing power

Next, you'll need a fast Pentium II CPU — the 400 or 450 MHz chips running on the new 100 MHz bus. Or why not just get the latest 600 MHz Pentium III chip? Manipulating the huge number of bits in 24/96 sound takes a lot of raw processing power.

If you're doing any effects whatsoever (EQ, reverb, echo), and would like to hear them in real time, you need every bit of CPU speed you can muster. Otherwise you get tied down burning "image" files to check the changes you've made. This added step hopelessly reduces productivity — especially if you're a stickler for "tweaking" your sound till it comes out just right.

Along with this, system memory can't be just ECC, but also must be PC 100-compliant too (yet another added premium). Older memory is designed to run on the 66 MHz bus, not at the newer, faster 100 MHz speed.

Had enough yet? There's one more crucial detail. 24/96 forces that legacy Card D+ or other ISA bus audio card into retirement. The old AT-era standard (going back to the days when CPUs were running at single-digit clock speeds) simply cannot carry the flood of 24/96 data effectively.

Flood of data

A PCI soundcard's tremendous increase in bandwidth capacity becomes yet another requisite upgrade. And the card's chipset has to be up to snuff for true 24-bit sound. There's some debate as to what's "genuine" 24-bit here. Suffice it to say that not all "24-bit" soundcards are created equal. Expect to pay top dollar for the real McCoy.

By now, you realize that you don't really "upgrade" your current DAW to handle 24/96 audio. It's easier to start from scratch and buy a new system that incorporates all these high-performance components.

If you're shopping for a new system already, it's probably worth investing a premium (since system prices are so low now anyway) to have 24/96 capability. But will your listeners know the difference?

Sound quality is only as good as the weakest link in the chain. Radio transmitters and receivers really cannot convey the wider dynamic range possible with 24/96. And even if they did, you'd have to revamp your studio wiring and replace

most all of your microphones.

Normal power lines and typical cabling introduce noise above the 24/96 threshold. You'll need a complete redesign here. And radio favorites like the Electro-Voice RE-20 are also too noisy. You need mics with far lower noise threshold to bring out the subtleties of high-resolution 24/96 sound.

And still there's the matter of your on-air automation/music on hard-drive system. More than likely, you're compressing music to conserve hard-drive space. Well, that's got to end if you want to promote yourself as providing 24/96 sound.

Now here's the real kicker: even if you rerecord your sound library at the higher standard, those CDs are still CD quality (16/44.1). So the best you can hope for is that your in-house production sounds better than your other programming!

The situation is somewhat like when television producers contemplated revamping for stereo sound. It hasn't become the standard, though some have done it as an added enhancement for their home theater-equipped audience.

The fact is, TV production in stereo adds enormously to time, effort and cost — all to satisfy a small minority of the total audience. For radio producers, the sonic excellence of 24/96 audio may only gratify the audience who have the privilege of listening on the studio monitors.

Oh, and to make it worthwhile, be sure those monitors are truly exceptional.

■ ■ ■

Your thoughts on 24/96? Tell us via e-mail to radioworld@imaspub.com

Cipriano Voices a Career

► CIPRIANO, continued from page 81

"I've come across a lot of voice-over talents that poo-poo their radio years, saying that they couldn't wait to get out. I never felt that way, even though I knew I was not going to ever be a Rick Dees. My advice is to take some time, utilize your radio career.

"As you go after your dream, respect what you've got. The last four years, I was making enough to walk away but I liked the security of radio. Those are a couple of words you don't normally see together, 'radio' and 'security.' We've all been fired, but if you can pick up another radio gig quickly, it really doesn't hurt too much in the long run, so you can keep your base income."

Does Joe Cipriano ever have a moment of doubt about his career choices?

"You never know. Up until now it's been good. But I still keep a foot in radio just in case," he said.

"I've had my ups and downs, and after some success in voice-overs in the mid-80s I did a bunch of trailers for movies like 'Fast Times at Ridgmont High' and 'Porky's'.

"I lost my full-time gig at KIIS(AM) and all I was left with was one overnight shift on KIIS-FM Sunday mornings from 3 a.m. to 6 a.m. I was down to \$170 a week in Los Angeles with a mortgage, a two-year-old girl and a son on the way," he recalled.

"It was tight, but thank God, my wife, Ann, had a great job in TV as a segment producer. But we almost had

to give up on the house. Fortunately we didn't, and we still live there. But at the lowest, tightest point, I was offered a job at WLS in Chicago. So it was decision time. Do we move to Chicago for a radio job or stay in L.A. with the hopes of having a voice-over career?"

Call from TV

Cipriano stayed and focused on voice-overs, turned down the Chicago opportunity, and picked up a syndicated radio gig about three months later.

"Then KIIS-FM hired me to do about five shifts a week and during one of those shifts while filling in for Big Ron O'Brien one afternoon, I got a call from the VP of marketing for this brand-new television network that had just come on the air. He liked my voice — he was listening to me in his car on KIIS-FM — and I became their 'voice.'"

His employer was the fledgling Fox Network.

"I'm still at Fox. But I still keep my foot in radio. I record image liners for stations all over, and I still host a radio show once a week. It's a syndicated show for the international market called 'The World Chart Show,' which runs on about 150-200 stations."

Any final advice for aspiring voice talent?

"Map out your strategy, devote a certain amount of time each and every day to work on your voice. Think of it as your part-time job.

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D&R Dayner 48 chnl in-line console, light use, \$3000. D Gaydos, 212-997-9279.

Altec VU meter for mdl 1592 mixer, like new, \$20; Altec vintage meter, Hollywood CA, possibly for compression, like new, \$20. J Morinelli, 610-715-1720.

McMartin 802B 8 chnl stereo on air board in gd working cond, \$400 +shpg. D Willey, 541-575-1840.

McMartin B-803 8 input dual chnl output, BO. D Lurtey, 864-370-1800 x2730.

Radio Systems RS-12, 12 mixer stereo console, 4 yrs old, gd cond, \$2500/BO. H Kneller, 941-494-4111.

Logitek 12 stereo mixer. Mike, 800-588-7411.

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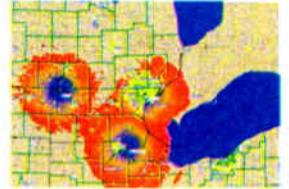
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Catel FMX 2100 xmtr unit w/power supply, stereo gen & xmtr w/4 crystals, 95.9-101.1, 91.5-103.7, \$600/BO +shpg. WAQQ Radio, 740-775-2600.

CSI T-02-A 20W AM, BO; Radio Systems Phase II carrier current coupler, BO. D Lurtey, 864-370-1800 x2730.

McMartin BF25K w/exciter, will tune & test to your freq, avail 9/1/99. D Denver, 402-734-5521.

Tepeco J-340 (2) in excel cond, used 2-4 yrs, \$2000 ea. C Marker, 906-249-1423.

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Wavetek real time spectrum analyser, \$275 +shpg; Tektronix DC502 FG 501, 508, \$475/all 3 +shpg; Videotek TVM620 waveform monitor, vectorscope combo, \$950 +shpg. J Baltar, 207-623-1941.

WE KS15750LI, manufactured by Hickok, deluxe tube tester, 3 meters, 1963 roller chart, gray aluminum case, made for US Navy; model 202B Kintel, microvolt meter, tube type, zero center, mirrors scale, General Radio AC vacuum tube voltmeter 727A, battery type. F Yonker, 814-867-1400.

Gertsch FM-5 & FM-6 freq meters, Gen Radio CG-3 counter generator; HP noise & distortion meter 330-D; Simpson precision multi-millimeter 1702; Sprague trans tester TF-151; Bird Termaline 6154 watt meter; McMartin noise meter AM-25; Sprague cap analyzer TO-6; Heath impedance bridge 1B2A, and more, BO. Mrs. Duke, 931-668-9465.

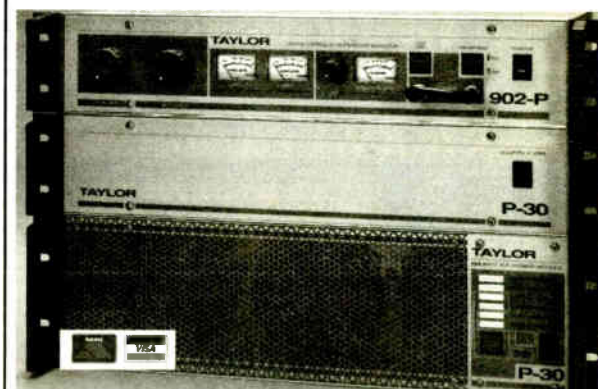
HP 8444A .5-1300 MHz tracking gen, \$600 +shpg; HP 214A pulse gen, \$165 +shpg; Tektronix 508 1GHz counter, \$175 +shpg; HP H383A variable attenuator, \$160 +shpg. J Baltar, 207-623-1941.

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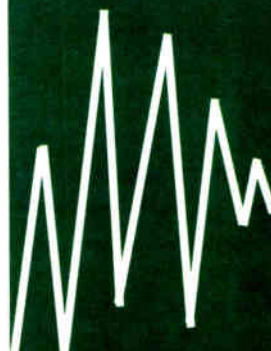
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◆ READERS FORUM ◆

AEA info

Dear RW,

You ran a story several months ago about a company that made replacement parts for the RCA 77DX microphones. Can you give me contact info for that company?

You still have the greatest radio mag on earth. Keep up the good work!

Bryan King
BK Radio/KAJI(FM)
Austin, Texas

The company is Audio Engineering Associates, or AEA. The phone number is (800) 798-9127 in California. The AEA Web site at www.wesdooley.com offers RCA part and pricing information.

Everyone has one ...

Dear RW,

I've just finished reading the July 7 edition of RW. Some of the opinions in the article "The Low-Power Debate Rages On" are unbelievable.

Obviously, everyone related to broadcasting has an opinion, but it all seems to come down to one thing: money. I am very pro-low power. Are the existing stations so concerned with competition that it scares them to death? Are even the small-market stations shaking in their boots because they might have to actually do some creative programming for once instead of broadcasting satellite feeds?

One letter in particular was amusing. It was from a Mr. Stokes, President of Stokes Communications in Randolph Center, Vt.

"These (small-market) communities can generally support only one local radio station. Adding a bunch of new radio stations in a town of 5,000 (such as we serve) can only have one possible outcome: the destruction of local broadcasting," he wrote.

Give me a break! Destruction of local broadcasting? It is obvious Mr. Stokes is so settled and comfortable as the *only* station in town, grabbing up the entire sales market, that competition scares him to death.

Growing comfortable with your piece of the pie can be dangerous business. Competition is a good thing, Mr. Stokes! It would not be the "destruction of local broadcasting," it would be a new and refreshing beginning.

Granted, there would be fly-by-nighters broadcasting one day and dark the next, but that's true in any business. They will fall to the wayside. God forbid, someone would come along with creative program-

ming, serving a community, albeit low power, and give the old guard some competition. Thank goodness, real entrepreneurs don't think the way of Mr. Stokes.

Ed Richards
President
The Production House
Hennessey, Okla.

BSI/Orban exchange

Dear RW,

In response to the Readers Forum letter from Ron Burley of Broadcast Software International which appeared in Radio World July 7, we would like to explain the process of creating an industry standard.

Orban's technical staff recognized that the radio industry would profit by having a standardized interchange format for traffic/continuity information in an audio file to facilitate communication between different production and on-air systems. Using the EBU's Broadcast Wave Format (BWF) as an acceptable model, we created the initial proposal based on our best judgment.

In 1998, we submitted that to two non-profit industry standards bodies, the Audio Engineering Society and the European Broadcast Union. These organizations accepted the proposal, encouraged its refinement, and each assigned it a project number under a designated working group.

Because these two standards bodies have a strict set of rules and regulations with regard to the standards creation process, the Cart Chunk concept was no longer solely Orban's idea. People from other companies, such as BE, Enco and Prophet Systems, who all have an interest in the outcome, joined the process with suggestions, criticisms and additions. Comments have been circulated to all members of that working subgroup.

This dynamic dialog is all in the service of trying to establish an industry consensus which then becomes a standard when the formal process is complete. Any industry member is welcome to participate by joining the standards process.

We very strongly recommend that Mr. Burley submit his comments to the appropriate working groups so that they may be considered, along with input from other vendors and user alike. Group activity has already generated hundreds of responses. The standards working group will then evaluate competing implementations and technical choices.

We thank Radio World for having pub-

Sources
Converge

The radio industry has seen a substantial amount of rejiggering in its supply pipelines.

This month, Harris Corp. agreed to acquire Pacific Research & Engineering Corp. The deal brings two long-time competitors together. Harris adds a company that has been famous for years for top-shelf consoles and systems projects, but which has seen sales drop recently as large studio system projects declined.

It's the normal course of business for healthy companies to acquire competitors when they become available. Not long ago, Harris purchased Intraplex, strengthening its offerings for program distribution technology. Similarly, Wheatstone acquired Auditronics, simultaneously eliminating a console competitor and adding to its own diverse lineup of products.

Some buyers lament that choices are dwindling as the radio customer base gets smaller in the wake of consolidation, and supply companies follow suit.

After all, the number of purchasing entities is smaller. The top 10 radio groups as measured by revenue now own more than 1,650 stations. Few people want to see an industry dominated by one supplier. Competition is good.

But ample choices remain, and radio remains a lucrative market for intelligent business people. Every merger represents an opportunity. Small, entrepreneurial companies can still make a mark and grow quickly.

For example, Broadcast Software International recently won a deal with Cumulus Media under which Cumulus will standardize its radio stations on non-proprietary digital studio and audio software from BSI. More than 1,500 broadcasters now use BSI's WaveStation. BSI was not a prominent player just a few years ago. The industry offers ample opportunity to suppliers with good ideas.

Meanwhile, when companies merge, radio managers should take the time to understand how it affects their choices, and make their needs known to the newly merged entity. Buyers should make clear to their suppliers that they expect the best service, and continue to shop carefully for the best values.

We're encouraged that companies like Harris and Wheatstone seem to understand the vital importance of continuing that level of support, as they become larger and more successful.

— RW

lished the initial proposal as a way of informing the entire industry that the activity was underway. However, RW is not the correct forum to use in the debate of competing technical ideas, as there is simply too much input from too many people which would fill too many pages of the newspaper.

Orban's intent, all along, was to avoid the problems of proprietary company formats, competitive advantages and self-interest advancement by using a public forum. Whatever the merits of BSI's implementation, it had not been submitted to open discussion via standards working groups and hence remained a company propriety format.

Although the Cart Chunk standards discussion has been going on for some time with a consensus emerging, it is not too late for Mr. Burley or any other reader of RW to volunteer new contributions. No single company, however, be it Orban, BSI or Microsoft, will have more than one voice in the process. Those of us who have previously participated in standards creation know that it is not a perfect process, but it is fair, and there has never been a better alternative.

Anyone wishing a copy of the current proposal may download it from

www.orban.com/orban/techforum/audiocypages/nab_cart/1999NabCart.pdf

Anyone wishing to be on the working group's distribution should contact dpierce@world.std.com

Orban's effort in creating the proposal and in contributing to the standards process should be viewed as a public service. When the process is complete, all companies will be able to take advantage of this format on a level playing field. In the end, the users are the ones who really benefit.

Barry Blesser
Dick Pierce
Geoff Steadman
Orban
San Leandro, Calif.

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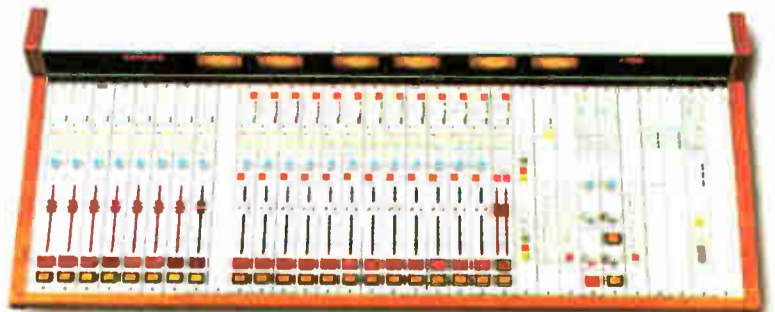


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