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Radio World



Vol 21, No 8

Radio's Best Read Newspaper

April 16, 1997

FCC Issues New AM Expanded Band List

by Lynn Meadows

WASHINGTON The saga of the AM expanded band continues.

The FCC's Mass Media Bureau released another computer-generated list of expanded band "winners" last month. This marks the third time such a list has been issued since 1993. Anyone disgruntled with the plan had until April 16 to file a Petition for Reconsideration.

In 1993, the Federal Communication Commission adopted measures "to improve and revitalize" the AM

broadcast band. At that time, the agency announced it would allow certain AM licensees and permittees to migrate to the frequencies between 1605 and 1705 kHz, a zone known as the Expanded Band.

Four years later, one thing is certain: Deciding which AM stations can migrate is a task easier said than done.

Software glitches

The FCC issued its first proposed allotment plan on Oct. 14, 1994, and promptly received 11 Petitions for Reconsideration. In response, the agency

rescinded that plan, as well as the initial "improvement ranking factors" of stations that had petitioned to migrate to the expanded band. During the fall of 1995, the FCC solicited comments on proposed technical procedures to calculate revised improvement factors and generate a new plan.

An improvement factor is the ratio of the area of interference caused to all other stations, divided by the migrator's interference-free service area. If allowed to move to the expanded band, a station with a larger improvement factor will

reduce existing band interference more than a station with a smaller improvement factor.

After that comment period, the Mass Media Bureau reran the computer programs it uses to calculate which stations could migrate, and released a second proposed allotment plan on March 22, 1996. The agency received eight Petitions for Reconsideration.

See AM BAND, page 11 ▶

Respected FCC Engineer Dies

by Matt Spangler

WASHINGTON Robert Greenberg, key member of the Federal Communications Commission's mass media technical staff, died suddenly at the age of 42 last month. He was senior supervisory engineer (FM) of the Audio Services Division.



Robert Greenberg

He was known in the broadcast industry as a bright, dedicated and hard-working public servant who excelled at crafting creative solutions for the most complex and seemingly intractable engineering problems.

Greenberg came to the FCC in 1979, and in his 18-year career with the commission he served in a variety of capacities with the Mass Media Bureau.

As a special projects engineer, he was in charge of creating the low-power television directional antenna database currently used to process LPTV applications. He was also a part of the U.S. delegation that negotiated a 1984 broadcasting agreement with Canada.

Greenberg shepherded a number of rulemaking projects at the Audio

Services Division. He saw himself as a "peacemaker and problem solver" in the dispute between homeowners and radio stations over blanketing (RW, Sept. 4, 1996, p. 30).

The rulemaking he set in motion on this issue will carry on, according to Dale Bickel, senior electronics engineer with the division.

Perhaps the most significant legacy Greenberg left was his work with tower registration. It was his idea to simplify the process for registering all towers rather than have each bureau require

different information from their licensees. His goal was to create a universal tower registration database that the industry, the government and the public could access.

Allen Myers, communications analyst with the Audio Services Division, said Greenberg's absence will be felt in the tower registration program. "If there were any questions concerning what was intended versus what happened," Myers said, "and how we deal with that issue, he would have been the person that we would have gone to

See GREENBERG, page 8 ▶



Elmo Donze celebrates his return to the air after four years. See Running Radio, page 35.

Radio Engineers Survive Nevada Chopper Crash

by Sharon Rae

LAS VEGAS Unpredictable mountain winds. Dangerous snow conditions. A helicopter crash and ensuing fire. A 5-hour, complicated rescue effort.

Sounds like the stuff of a Stallone, Schwarzenegger or Van Damme action movie, but it was a real-life scare for two Las Vegas engineers whose trip to a station's transmitter to fix a routine problem turned out to be anything but routine.

"For us to still be around talking about it is pretty amazing," said Mike Liles, chief engineer for Lotus Broadcasting in Las Vegas. "Helicopter crashes themselves ... not many people walk away from them ... it's just something incredible."

Liles spoke from home, where he was recovering from broken ribs, a broken shoulder blade and a collapsed lung, following a

See CRASH, page 6 ▶

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NEWSWATCH

White House Wins Gips From the FCC

WASHINGTON Don Gips, former chief of the FCC International Bureau, has been appointed by the White House as chief domestic policy advisor to Vice President Al Gore. He began his tenure there April 7, replacing Greg Simon, who was instrumental in implementing the Telecommunications Act of 1996.

Gips advises Gore on a range of social and economic issues, with a focus on communications and technology on both the domestic and international fronts. As International Bureau chief, Gips was influential in developing many of the FCC's satellite policies.

NPR Moves Ahead on DAB, The Web and Cueing

WASHINGTON National Public Radio is moving its affiliates to the forefront of technology. Its board of directors has told NPR staff to push public radio's shift to digital audio broadcasting.

The board recommended that NPR participate in alliances with other industry groups, including public television, in the development and promotion of new technical standards and spectrum options.

Meanwhile, an NPR committee is looking at the effect of placing the network's national programming services on member stations' websites. The following stations began participating in January:

WKSU-FM in Kent, Ohio, KCBX(FM) in San Luis Obispo, Calif., WAMC(FM) in Albany, N.Y. and WRKF(FM) in Baton Rouge, La.

The Internet Advisory Committee will report to the board in July on the year-long project.

The board also approved the Program Automation Advisory Committee's recommendation that NPR develop automated cueing systems in tandem with member stations, and adopt a 25 Hz cueing system in the interim.

Automated cueing systems are designed to help send national programming to local radio stations so that they can switch to local programming without monitoring by station personnel.

FCC Appoints Local Advisors

WASHINGTON FCC Chairman Reed E. Hundt has announced the appointment of 13 members to the Local and State Government Advisory Committee. The committee will advise the FCC on actions it takes regarding the Telecommunications Act of 1996.

The members of the committee are Victor Ashe, mayor of Knoxville, Tenn.; Bill Campbell, mayor of Atlanta; Ken Fellman, city council member in Arvada, Colo.; Michael Guido, mayor of Dearborn, Mich.; Randy Johnson, commissioner of Hennepin County, Minn.; Rep. Myra Jones of Little Rock, Ark.; Timothy M. Kaine, council member in Richmond, Va.; Sen. Douglas Kristensen from Minden, Neb.;

See NEWSWATCH, page 3 ▶

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Circle (32) On Reader Service Card **World Radio History**

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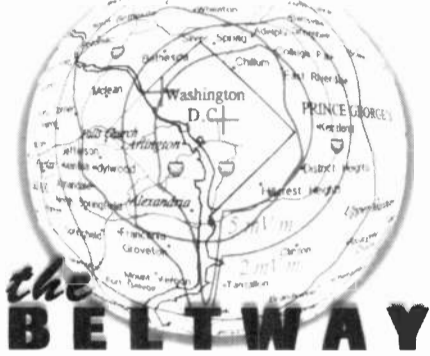
It's a Free Airtime Free-for-all

Clinton and Kerry Want Broadcasters to Give It Up

by Matt Spangler

WASHINGTON Radio broadcasters could breathe a sigh of relief about one thing after President Clinton's speech at The National Press Club last month: it appeared that the fish the president wanted to fry was television.

INSIDE



A Roundup of News and Comment Affecting Radio From the Nation's Capital

"We have an obligation to restore our campaign finance system to a system that has the broad confidence of the American people, but also of the American press that comments on it. In order to do that, television has to be part of the solution," said President Clinton.

In other words, thanks to the precedent set during the famous Nixon-Kennedy

debates, elections cannot be fought, much less won, without the idiot box. But what does this mean for radio?

Clinton spoke to the "Free TV for Straight Talk Coalition," a group founded by journalist Paul Taylor. Free TV time for candidates is its agenda. The president tailored his remarks specifically at requiring the new digital television medium to give free or discounted airtime to politicians.

It is not the first time he has targeted broadcasters. In 1993, he proposed legislation that would give vouchers and/or reduced rates to politicians who agreed to cap their campaign spending.

This is the crux of Clinton's new rally as well. As part of the bipartisan McCain-Feingold campaign finance reform bill, which the president has heartily endorsed, candidates for the House would be required to limit campaign spending to \$600,000 per cycle, adjusted for inflation, while the rate for those running for the Senate would be based on state voting age population. (The president showed his dedication to the cause by attending two fundraisers after the Press Club gathering, designed to raise \$600,000 in "soft money" contributions.)

Senate candidates would receive 30 minutes of free airtime, and both Senate and House candidates would be eligible for a 50-percent discount on the lowest unit rate for airtime purchased within 60 days of the general election and 30 days of the primary election. (But hurry! This

sale won't last!)

The idea: campaigns are prohibitively expensive for some candidates, so to create a level playing field, "the law has to have a floor."

NAB objects

There is no reason to think that radio won't be next. "The biggest reason for (the increase in campaign costs) is the rise in the cost of television. But, of course, there is also now much more money being spent on mail, on telephoning, on radio and other print advertising as well," said Clinton.

But, cheap or free rates should fix that, right? Nope, said the NAB. Mandatory free airtime "won't prevent illegal campaign contributions and won't reduce the cost of campaigns," said NAB President Eddie Fritts.

Such a requirement would be particularly damaging to stations with large coverage areas. "Any proposal of free time is unworkable in that some stations cover as many as 33 congressional districts," Fritts said.

Imagine, a station with 24-hour campaign rhetoric.

Hey, let's form a commission!

Clinton achieved some bipartisan alignment by declaring that broadcasters should fulfill their public service obligation by giving free airtime, an idea also proposed by Rep. Billy Tauzin at the

NAB State Leadership Conference in February. The president departed from Tauzin, however, by linking the concept to the new digital medium.

"I believe," Clinton said, "it is time to update the broadcasters' public interest obligations to meet the demands of the new times and the new technological



Clinton Builds Bridges ... With Broadcasters' Money

realities. I believe broadcasters who receive digital licenses should provide free airtime for candidates, and I believe the FCC should act to require free airtime for candidates."

Notice he said "digital licenses." Not "digital television licenses," but digital licenses. Period. That could mean radio.

FCC Chairman Reed Hundt, in attendance, acted immediately. His statement following the president's speech implied that the wheels were in motion.

See BELTWAY, page 6 ▶

NEWSWATCH

▶ NEWSWATCH, continued from page 2

Darryl T. Owens, commissioner of Jefferson County, Ky.; Mary Poss, city council member in Dallas; Marilyn J. Praisner, president of the Montgomery County Council in Rockville, Md.; David A. Svanda, commissioner of the Michigan Public Service Commission; and Alaska Lieutenant Governor Fran Ulmer.

At press time the committee had not met, and Hundt was in the process of appointing a Tribal government representative to the committee.

SBE National Meeting Set

INDIANAPOLIS The 1997 National Meeting of the Society of Broadcast Engineers will be held Sept. 26, at the Four Points Hotel and Convention Center in Liverpool, N.Y., in conjunction with the 25th annual Central New York SBE Regional Convention.

The national meeting will feature the Annual Meeting of Membership and National Awards Dinner. The awards go both to individuals, such as the broadcast engineer and educator of the year, and to SBE chapters, including the best chapter newsletter and the highest growth in membership.

The regional meeting will consist of the Fall Board of Directors Meeting, presentation of papers and an exhibit floor.

The national meeting supplants the national conventions and conferences of old. A different regional convention site will host the national meeting each year. Attendance in past years has ranged from 600-700.

'Granny' Klink Dies

WASHINGTON Legendary radio engineer Granville "Granny" Klink Jr. died last month at the age of 87.

Klink spent most of his 61-year engineering career at Washington's CBS affiliate WTOP(AM), formerly WJSV(AM). While there he engineered broadcasts for the likes of Franklin D. Roosevelt, Kate Smith and "Amos 'n' Andy."

Born in Philadelphia, he began his broadcasting career in 1936 at Christian station WIBG(AM) in Elkins Park, Pa. He later accepted a position running a 250 W transmitter at WDAS(AM) in Philadelphia, hoping eventually to land a job with CBS. In July 1937, he began work in field/studio operations at WJSV.

He later became chief engineer of WTOP-AM-FM-TV, and retired in 1978. He stayed on at the station, however, as a full-time consultant until his death.

"He rarely took a day off," said WTOP Chief Engineer Dave Garner, Assistant Chief Engineer. He was involved in a construction project involving WTOP's AM ground system in Wheaton, Md., not long before his death.

Garner remembered him as a nice person who seemed to know everyone in the business and was beloved by all. Industry people who knew him from earlier in his career, Rose said, also called him "Tinkle."

Klink died March 18 at Holy Cross Hospital in Silver Spring, Md., of a blood clot brought on by cancer. He is survived by his wife Marion, three sons, a brother and four grandchildren.

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Operator Sneezes, Wipes Out Playlist

WASHINGTON Every now and then you hear a story that makes you roar out loud with laughter — unless of course, you've had the event happen to you and then your reaction is more likely to be a groan of recognition.

Technical Editor Al Peterson brought one such item to my attention and I just had to share. In the Chesapeake, Va., Public Schools' WFOS-FM "Program Guide" there is a tale about one of the students helping set up the automation system. He was too close to the touch-screen when he sneezed — blowing several events off the system. His panicked attempts to clean off the screen only resulted in more events being taken off the system!! Culminating in a call from the station manager demanding to ask what was going on! Poor kid.

Al recommends that manufacturers dream up a sneeze-guard *a la* salad bar cover in your local eateries. Sounds like a good idea to me.

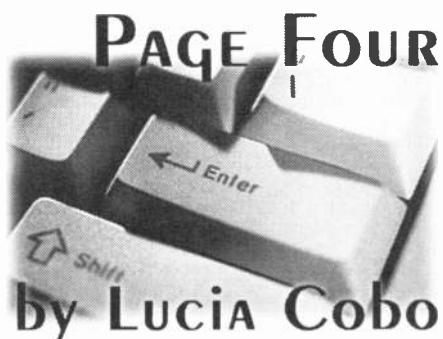
Digital musings

In all the back and forth about digital audio broadcasting, I have of late been accused of ignoring the technical merits and/or capabilities of the Eureka-147 DAB system. That is untrue. *RW* always has and will continue to cover what the rest of the world broadcasters are doing. The technical merits of Eureka-147 have never been questioned or impugned by me.

Simply: my support of the in-band, on-channel solution for U.S. broadcasters is based on the political realities of this country. When and if new spectrum is available for digital audio broadcasting and when and if that spectrum is desirable to U.S. broadcasters, then and only then will I drop my support for an IBOC solution. I will continue to ensure that *RW* covers the broad spectrum of DAB doings and endeavor to keep you informed. So there you have it.

Changing world

There was an item in this morning's news roundup that is worth noting. Westwood One will now represent and



manage the CBS Radio Networks. We will have a full story on this in the next issue of *RW*, but I just wanted to fill you in on the basic facts.

Essentially, Westwood One and CBS Radio Networks can be considered consolidated. Westwood will take over the sales, marketing and management of the various CBS Radio Networks.

I don't really know what to say about this other than it feels momentous, somehow, in my bones. CBS now subsumed by Westwood. One-time competitors (what with NBC/Mutual belonging to Westwood) now all managed together.

It almost feel like shopping for coffee at Starbucks. Yeah, you think you're getting a million great choices, but in reality you're just paying \$3 for a cup of coffee. Now, before anyone jumps up and says I'm being negative, let me say that it's just a feeling. And let me say that I shop at Starbucks on a regular basis. And that progress is good — but also hard to accept for old-timers like me who sometimes romanticize the business just a little.

Not unlike those mega-billion dollar deals that continue to lump huge numbers of stations under one roof, the continued compression of the radio business is a tad alarming, even for the most progressive and capitalistic among us.

Back from NAB

Before heading off to Las Vegas, I had the opportunity to talk to NAB Senior Vice President/Radio John David about the radio aspect of the Spring show. If you had the chance to go out there, you know that he was right when he said, there is "plenty" for radio at NAB '97.

He did get tired of hearing about how there was nothing for radio at NAB '97, however, and before the show put out a pretty slick mailer that detailed (six pages worth) all the good stuff to for radio broadcasters in 'Vegas — including all the events, sessions, exhibits and keynotes geared toward radio.

NAB '97 indeed had plenty for radio. It had Michael Jordan, Dick Orkin and Wally Philips and the Radio Crystal Awards. Look for our full news wrap up in the next issue, and our complete product wrap up in the one after that, including the *RW* NAB 1997 *Cool Stuff Award* Winners!!!

Windy City hosts PRC

June 6 - 10 is the date and Chicago is the setting for the 1997 Public Radio Conference. Headquartered at the gorgeous Hyatt Regency right on the Riverwalk, adjacent to the magnificent mile. This year's conference, according to PRC, is focused on the future. It will feature representatives from public radio stations, national and regional organizations, independent producers and members of regulatory agencies.

And it is in Chicago! That alone is worth the trip. I love that city, and I love radio in that city. Monster AMs, big FMs and healthy competition. It gives radio a good name.

Are You Ready For Summer?



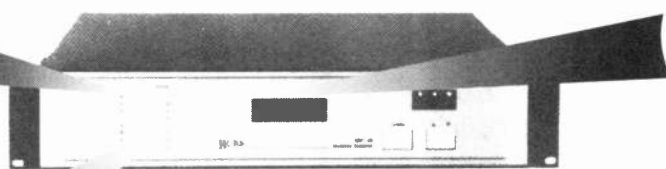
In this issue of *RW*, we take a look at ways radio stations can make money or create awareness through summer promotions and sports events. Mark Lapidus offers up some unusual ideas for summertime promotions on page 38. Lynn Meadows writes about the growing all-sports format on page 8, and talks to industry observers about trends in sports promotions on page 35.

WSCR(AM) Chicago, "The Score" SportsRadio, certainly knows the power of sports.

Here's a snapshot from their recent Charity Bowl-A-Rama. Among the sports celebrities on hand were ex-Bull Bob Love, Bear Jim Flanigan, Steeler Jerome Bettis, ex-Bear Curtis Gentry and Bear Jason Augustino. WSCR's Mike North is kneeling, center, in dark pants.



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Digital watermarks

Dear RW,

I enjoyed the article on hiding data within music using "echo hiding" ("MIT Group Hears Promise in Echo," March 5). While the resonance added by the MIT system might be considered an enhancement to voice, it would likely be an undesirable effect in music. Other "digital watermark" systems exist which are inaudible.

ARIS Technologies' MusiCode digital watermarking system, for instance, has proven itself inaudible. David Moulton, producer of the recording engineer training series "Golden Ears," recently stated that "after extensive tests, we were unable to detect any coloration or artifacts in the encoded music."

A transparent system such as MusiCode can be used to encode copy-

right information during the recording process, meaning that every CD pressed can be watermarked. This places the burden of copyright protection on those with the most at stake in the age of digital programming and distribution: the content owners (artists, publishers, record companies). MusiCode can also be layered, meaning that a producer can add additional copyright information during broadcast.

Because these inaudible watermarks survive even analog broadcast, they can be retrieved by decoders to compile accurate playlists for royalty collection. Digital watermarking is an exciting new field, and the applications are numerous. More information can be found at www.musicode.com.

Richard Gastwirt
ARIS Technologies Inc.
Cambridge, Mass.

Cellular POTS codecs?

Dear RW,

Thanks for the informative article on the POTS codecs ("Radio Studies POTS Codecs," March 5). However, I wish Alan Peterson would have also explored a cellular version of the POTS codec.

Many broadcasters in smaller markets don't have the money for a POTS codec and the installation of a POTS line at a remote site. I field-tested a FieldFone and was impressed with its performance. However, I was not impressed with the reluctance of some merchants at remote sites to allow me access to their phone line to hook up the unit.

An additional problem arises when the broadcaster arrives at a remote site and discovers that the merchant's phone system is a PBX type incompatible with a POTS codec. A phone line carrying two or more lines coming from a PBX and going into the merchant's phone is not generally compatible with the codec. Now where do you get the single POTS line to make the unit work?

That is why the development of a codec that works with a cellular phone is vital. Are the manufacturers developing a codec that will work with a cellular phone?

Mark Carbonaro
Operations Manager
KOCN(FM), Pacific Grove, Calif.

Alan Peterson responds: Always examine the client's phone system well prior to an event. Chase the line back to the closet and clip to the telco side of the box. Naturally, the client would have to understand he or she would lose a line during the remote broadcast, but that would happen anyway. Certainly a POTS codec can be connected the same way.

I have yet to see a POTS codec designed for cellular phones. Those big, old two-piece phones are a dying breed, and those new Star Trek-style flip-phones provide no connection for an external source. Consider the quality of your region's cellular service; the odd dropout or flicker on simple voice communication can play havoc with a datastream. At present, a copper line is still as stable a

We Can Do Better

The Newseum, a multimedia museum about the news, opens this month in Virginia across the Potomac River from Washington. It is funded by the Freedom Forum, a non-partisan informational foundation.

At a hard-hat tour of the facility prior to its opening, Allen H. Neuharth, Freedom Forum chairman and founder of USA Today, said, "We want people to leave with a better understanding of the First Amendment."

Radio, with its rich, glorious history, lends itself well to a museum environment. But the opening of this facility should also prompt radio news people to introspection. How well does radio serve its news listeners today?

In truth, we could be doing better. When journalists push the boundaries of their profession these days, usually those journalists are working in other media: in print, on the Internet, even on television. Ask someone for a list of achievements in radio journalism, and they'll probably cite examples from the 1930s and '40s.

Too many radio news staffs today have been gutted. Morning anchors rip and read so often that we hardly notice. News directors allow their staff to pick up stories out of the morning paper, sometimes even without attribution. Syndicators tempt managers with news-for-hire services. This is community service?

Some radio organizations stand out, particularly public stations and some commercial broadcasters who pride themselves on their commitment to digging up the news. But they are exceptions.

Salary levels demonstrate how managers view their news employees. According to the Radio-Television News Directors Association, radio news salaries "advanced in the marketplace" last year, with many managers reporting raises above inflation. But they have been low for years. Ask any news people if they consider themselves well paid.

The tools of news are better than ever: affordable analog recorders, tiny DAT and MD decks, digital codecs that work on regular phone lines. The thirst for stories, for news well presented, remains strong in our audiences, who are bombarded by information from new media, many of which are not proven. Most museums inevitably show what *was*, rather than what *is*. This one may be an exception. We hope the Newseum will seek out examples of excellence in radio news today.

Across the river from the Newseum, RTNDA gets a new president this month: Barbara Cochran, executive producer for politics at CBS News. The association's chairman said Cochran's "prestigious news background" will help in RTNDA's efforts "to guard the First Amendment rights of all media." We hope Cochran will also help radio news people to renew their commitment to journalism.

We can do better.

—RW

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Next Issue of Radio World
April 30, 1997

connection as you will get, but I will ask the manufacturers about this.

If you insist on staying mobile, consider a good old frequency extender system and a cellular phone. Otherwise, think about an RPU or one of the new breed of spread-spectrum systems recently profiled in RW.

Keep a ham happy

Dear RW,

I find articles like "Make Money From Your Tower" (March 19) very disturbing. I have been an Amateur Radio operator for 14 years and have been in broadcasting for 12. It is very hard for hams to acquire the necessary elevation for their repeaters without the use of tall towers and buildings.

I had a verbal agreement with the management of a local FM station for space at no charge to locate my Amateur repeater, and suddenly he backed out. Amateur Radio is used for public service and is not commercially funded. He now says he will lease me space.

Maybe you should explain exactly what the difference between commercial and public service is. Articles like this have made it almost impossible for hams to acquire or keep space without a lease agreement.

Clayton D. Hewitt KF8UI
Flint, Mich.

Who's listening?

Dear RW,

In 1976, when our FM was a Primary Relay station, I asked the safety person at four hospitals, three major employers, three police departments, the county safe-

ty officer and five schools, "How is your operation equipped to decode emergency broadcast signals?"

Only the county office, two police departments and one major employer were equipped, and they monitored KVOO Tulsa, Okla., "because our worst weather comes in from the southwest."

I have been involved in emergency broadcast warning since Conelrad and have yet to hear the question, "Who's listening?"

Nelson Rupard
General Manager
KIND-AM-FM
Independence, Kan.

What do you think?
Write to RW at:

Radio World Readers Forum
PO Box 1214
Falls Church, VA 22041

e-mail:
74103.2435@compuserve.com

The Winker

Dear RW,

It was great to see your feature (Feb. 19) on Wink Martindale. The old "Winker" was working at KGIL(AM) in the San Fernando Valley when I was a lowly intern in the news department in 1969-70. I was always fascinated by his great voice and, of course (I think I am right on this), his colorful cashmere sweaters!

Prof. Alan Frank
Director of Broadcasting
WMLN-FM, Curry College
Milton, Mass.

Rescue Effort Hampered by Winds

► CRASH, continued from page 1

week-and-a-half stay at University Medical Center in Las Vegas.

Meet you at the Point

On Feb. 24, Liles and assistant engineer Richard Roy set out in a four-wheel-drive vehicle for the top of Mt. Potosi, to fix a problem with the transmitter of KXPT(FM), "The Point."

"About three-quarters of the way up, we came around a turn in what we laughingly refer to as a road, and saw a telephone company vehicle stuck in a snow-drift," said Liles. "We knew we were not going to make it" past the truck, so the duo looked for another way up the mountain.

Arrangements for a helicopter to take them up the peak ensued.

Pilot Tom Schauss was at the controls of the Bell Jetranger as it began its climb to the top of the 8,515-foot mountain.

"There was some concern over the heavy winds," said Liles. "But we went ahead and went up, and the pilot made three attempts to try to land. Every time we'd come across any ridge or edge of the mountain, a severe updraft would blow us up where we couldn't land. On the third attempt, the same thing happened, and as (the pilot) turned around to abort the attempt to land, the wind caught us going the other way, it felt like to me. We wound up crashing into the side of the mountain. ...

There were a few seconds ... where it was pretty obvious that we were going into the side of the mountain.

— Mike Liles, C.E.
Lotus Broadcasting

"There were a few seconds, maybe 10 seconds, where it was pretty obvious that we were going to go into the side of the mountain. It seemed like an eternity."

The chopper slammed into a wooded area, and caught fire.

The heroics

"We were all stuck in our seat belts hanging kind of sideways upside down," said Liles, who remained conscious throughout the ordeal. "The pilot passed out for a few seconds after the impact. Richard Roy was completely unconscious."

The chopper was in flames. Liles acted quickly.

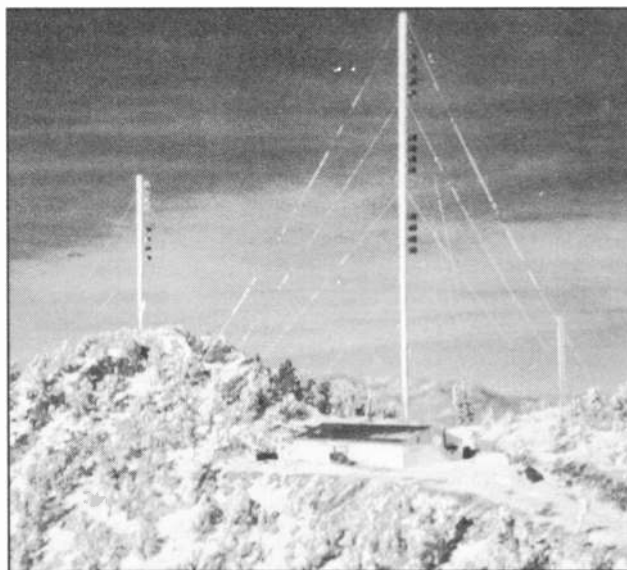
"I had my Swiss army knife and cut Richard's seat belt so we could remove him, because the helicopter was on fire," said Liles. "We had to get out of there pretty rapidly. So the pilot, with his one good arm, and me, with my one good arm, pulled Richard out and away from the helicopter and several feet down to the roadway, where we were safe from the fire."

Getting help was foremost on Liles' mind. Despite the pain of his injuries,

Liles hiked over a half-hour up the "mostly vertical" mountain to reach the nearest telephone — at the transmitter building. The pilot stayed behind, keeping watch over Roy.

"First I called 911," said Liles. "After that I made contact with my wife ... so she'd know I

'The Point': KXTP's Transmitter, Atop Mt. Potosi in Nevada, Near the Crash Site



was OK and at the transmitter. Then as I got ready to call the station, I turned to see that the only thing wrong with the transmitter appeared to be a tripped breaker."

The cavalry

Liles had already overcome the man vs. nature dilemma, and now his survival-of-the-fittest engineering instincts took over.

"I turned the breaker back on, and turned the transmitter on, and called the

station," said Liles. "I told them, kind of being a smart aleck, '91, OK, you can turn off your backup, you're on your main power and, oh yeah, by the way, the helicopter crashed.'"

The same high winds that overcame the chopper hampered rescue efforts. It took nearly 5 hours for crews from the Las Vegas Police search and rescue team, the fire department and Flight for Life units to reach the site.

"First they double-hopped me ... removed me from the building and put me on a chopper that didn't quite land," said Liles. "It kind of rested one skid on the edge of a cliff, and they shoved me in the side of it. Then it flew me part-way down the mountain" to a larger, safer

area suitable for landing.

Once there, Liles was put aboard the rescue chopper and flown to the hospital. Crews returned to the crash site to pick up Roy and Schauss.

"It was not a simple rescue at all," said Liles.

Liles' General Manager Tony Bonnici agreed, quoting the pilot of the search and rescue team.

"He said it was the most difficult rescue he's had to deal with because of the wind," said Bonnici. "They did an incredible job. The search and rescue crews were heroes. And, quite frankly, Mike, in our opinion, was a hero. Just the fact that he ... just dug deep and dealt with survival."

Liles spent 10 days in the hospital recovering from his injuries, and is still hurting. Richard Roy is undergoing rehabilitation following the loss of some muscle control in one leg. The pilot was treated and released from the hospital on the day of the accident.

Will Liles ever go up in a helicopter again?

"It's inevitable," he said. "Next year when it snows in ... It's kind of like falling off the horse. You've got to get back on."

But his colleague apparently feels differently.

"It was Richard Roy's first trip ever in a helicopter. He also mentioned that it will be his last."

■ ■ ■

Sharon Rae is a radio news director in Lansing, Mich., and principal of Rover News Services, as well as a regular contributor to RW. Reach her via e-mail at scohon@aol.com

Give It Away, Give It Away Now

► BELTWAY, continued from page 3

"The FCC is now writing the rules and preparing to grant the broadcast digital television licenses. We intend to make sure that these licenses will be issued subject to concrete and commensurate public interest obligations."

Before his appearance at The National Press Club, President Clinton signed an executive order authorizing the establishment of an advisory committee on the public interest obligations of digital television broadcasters, an idea planted by Vice President Al Gore a month earlier.

Gore panel

Broadcasters shouldn't expect any leniency from Gore. In 1988, as a senator from Tennessee, he proposed free airtime legislation.

But Clinton promises "a balanced panel" that will counsel him "on ways we can move forward and make a judgment as to what the new public interest obligations of broadcasters might be." The panel will consist of "members of the commercial and noncommercial broadcasting industry, computer industries, producers, academic institutions, public interest organizations and the advertising community."

In other words, all the bases will be covered. Sen. Conrad Burns, Republican chairman of the Senate Subcommittee on Communications, had this to say about the "Gore Commission" when he talked with RW for the last issue: "It's a nice way of

saying, 'I've got a commission around me, and this is what my commission recommended.'"

The executive order states that the committee will report to the vice president on June 1, 1998, on the public interest obligations of digital television broadcasters.

Democrats on the Hill have some

Imagine a station with 24-hour campaign rhetoric.

ideas, too. Sen. John Kerry co-authored a bill, expected to be introduced soon, calling for public financing of senate campaigns.

You read that right: taxpayer dollars going to finance elections.

Like McCain-Feingold, the Kerry bill includes provisions for campaign spending caps and banning soft and PAC money, but it also provides for matching funds for candidates "dealing with great opposition with people who are privately financed," according to a Kerry spokeswoman.

Kerry would also give candidates free and discounted airtime: 90 minutes

free, to be divided as the candidate sees fit between the primary and general elections, plus a 50-percent discount on the lowest unit rate 30 days before the primary election and 60 days before the general election.

'Full suck-up mode'

Clinton has at least one broadcaster on his side, trumpeting the idea of free airtime. "... I'm especially pleased that a leader in the industry, Barry Diller, has challenged his colleagues to open up the airwaves to candidates," Clinton said. "He has made clear — forcefully and very publicly — that he and all of his colleagues have an obligation to society."

An industry insider said Diller is in "full suck-up mode" to the FCC as he faces the possibility that the Supreme Court may reverse the "must-carry" rule, thereby enabling cable systems to drop channels like QVC, of which Diller is chairman.

So broadcasters get to fix a system corrupted by politicians. To do anything less would, as one pundit put it, constitute "another welfare program for rich white guys."

The low-power TV guys may not be so pure either. Their support for whatever public service obligation the FCC hands down must be considered in light of their hope for digital spectrum, and therefore survival.

But I digress. Just remember: the free market — and that means free speech — rules.

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Circle (104) On Reader Service Card
World Radio History

SONY

Major-market Stations Compete With Sports

by Lynn Meadows

VIRGINIA BEACH, Va. A decade ago, WFAN(AM) began "sporting" an all-sports format. The station, with its all-star local lineup, hit a home run with the format and is now the number-one billing station in the country.

In December, WIP(AM), Philadelphia, will celebrate its 10th year as an all-sports station.

The 1990s have seen the all-sports format take off, spreading from the top 10 markets to those no one would have believed could support it. Some markets field more than one all-sports station. Tampa has three.

Last month, amid other March Madness, the One-On-One Sports Radio Network announced plans to buy AM stations in New York, Los Angeles and Miami from Spanish Broadcasting, and convert each to an all-sports format. The network currently provides live sports programming 24 hours a day to 392 stations.

What's going on?

Simply put, sports talk is fun. It is not political, said Chris Brennan, chairman, president and CEO of One-On-One. It does not matter what color or religion you are; no one takes sports too seriously.

Brennan called the all-sports format "basically a male-bonding experience."

The beauty of the sports format is that it is driven by listeners, he said.

One-On-One receives 800,000 phone calls each month. Of those, between 15,000 and 17,000 get on the air. If a listener does not like the question being asked, they know that in the next minute, there will be a new question. By contrast, on a music station, the next song is always three or four minutes away.

Lorna Gladstone, a former sports radio consultant and operations manager of WMAQ(AM), Chicago, pointed to another factor.

"It is an addiction," she said. "It is an emotional involvement."

"What sports radio has done is brought

back younger listeners to the AM dial," said Kristen Santoro, research director for Interep. Those listeners are highly desirable to advertisers.

According to Santoro, 75 percent of sports talk listeners are in the 25-54 age bracket. The format tends to appeal to upscale listeners, she said, "not the beer-guzzling couch potato."

"We are so segmented," said Ron Gleason, director of sports and programming at WSCR(AM), Chicago, "that advertisers can pinpoint who they want without wasting any money on who they don't."

Easy to do

A Katz Radio Group Focus on Radio report stated, "All-sports radio has played a critical role in the AM renaissance of the 1990s." That was three years ago. Its

See SPORTS, page 12 ▶

Eliminate Carts for \$7,000

Scott Studios' Spot Box

At last! A commercial player that *works just like carts*, but with digital audio that *sounds like compact discs*.

It's Scott Studios' new *Spot Box*. It's the *first* hard disk "cart" replacement that *jocks really like!*

It's *easy to use*: You get four Start buttons for four recordings, just like a quadruple deck "cart" player.

The Start button clearly counts down the remaining time of each cut. Every deck shows "bar graph" VU levels.

When a "cart" finishes, the label and buttons turn grey to lock out accidental re-play. It can air again with a touch of the Replay button (at the lower right). If there are more than four "carts" in the set, the "on deck" spot moves from the fifth line (at the right of the time and date) to the grey deck that had played. The Spot Box can also remote start CD players.

The Manual-Auto button (at the right of each label) lets you start each spot manually or have the Spot Box smoothly start the next one itself. Automatic sequencing can also be turned on or off globally, by categories or shifts.

Pause buttons can stop (and resume) playback of any cut. During a Pause, the Start button can replay that recording from the beginning.

Each deck has a Fade button. It helps if you need to fade something out gracefully with one touch.

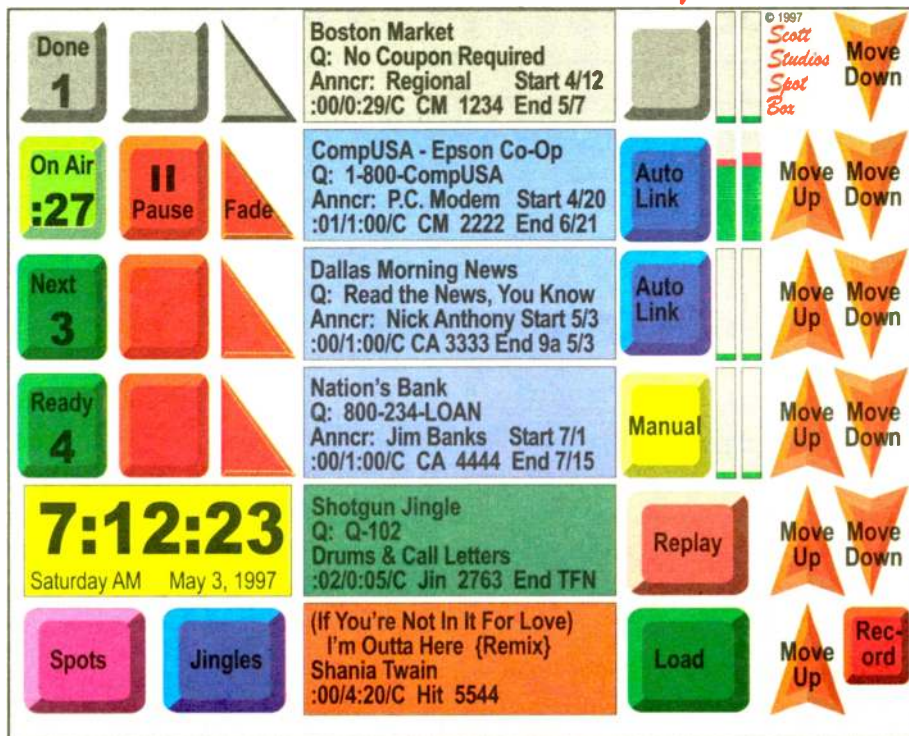
The Spots and Jingles buttons at the lower left take you to a "Wall of Carts" screen that shows *all* of your hundreds of recordings. You can jump immediately to whatever you want by touching the first letter of its name on the large alphabet at the top of that screen. Pick and play it quickly in any "cart" deck.

As an option, we can automatically bring logs into the Spot Box from your traffic computer. Then, after the spot set has finished, the Load button at the lower right automatically brings in the next break.

You can quickly rearrange the order of any recordings with the Up and Down Arrows.

Scott Studios' Spot Box not only *sounds better* than any "carts" you've ever heard, its labels *look better* and are easier to read than any "carts" you've ever seen!

You get four legible lines of useful label information: Names, numbers, out-cues, announcers, intros, lengths,



Here's a reduced size view of Scott Studios' 5"x8 1/4" Spot Box. You get easy access to hundreds of commercials, jingles, sounders, comedy and other recordings. All audio is CD quality digital from hard drives.

endings, copy info, start and end dates and times, schedule times, and anything else you want. Labels are even color coded. When you have several cuts rotating as one number, you see exact lengths. Both the name and out cue match the exact cut that plays. The Spot Box even rotates recorded tags.

If you have several stations in one building, record each spot only once. It's instantly playable in *every* desired studios' Spot Box, without re-dubbing or retyping labels. Cuts can be locked so they only play on designated stations or shifts.

You also get printouts showing *exactly* when each spot plays!

Best of all, Scott Studios' digital audio is *affordable*. A "four-deck" Spot Box player storing 600 minutes in stereo starts at \$6,000. You can record and edit spots or phone calls in the air studio during songs for only \$1,000 more. A production studio recorder-editor is \$5,000, and it can even go on-the-air if needed. 600 additional minutes of stereo storage is only \$250. Larger screens and a variety of backup options are available. At Scott's low prices, you can afford as much storage and redundancy as you want.

Also check out Scott Studios' Hot Box. It plays *any* of 62 "Hot Keys" *instantly* at the touch of a finger. You get 52 sets of 62 clearly labeled Hot Keys: 3,224 digital cuts for only \$5,000.

Scott Studios also offers other digital systems for satellite formats, music on hard drive and voice track automation. Call 800-SCOTT-77 for details, or a no-obligation trial in *your* station.

FCC's Greenberg Dies at 42

▶ GREENBERG, continued from page 1 on it. Now we have to guess."

Greenberg also worked with experimental authorizations and electromagnetic interference, and took the lead in recruiting, hiring and training new engineers for the Mass Media Bureau.

A man of respect

Greenberg obtained a B.S.E.E. from the Rochester Institute of Technology in 1978. During his last three years there, he was chief engineer of WTR-FM in Henrietta, N.Y.

His background at WTR drove him to come to the FCC straight out of college.

Bickel remembered him as "very dedicated to his work" and "easy to get along with." Myers, who kindled a personal friendship with Greenberg, said he was "a really nice gentleman: very even-tempered, very professional, intelligent."

Both Bickel and Myers commented on the respect Greenberg generated within the engineering field.

Spokesman

He was often called upon to be the spokesman for the Mass Media Bureau at conventions and trade association events sponsored by the National Association of Broadcasters, Society of Broadcast Engineers, Institute of Electrical and Electronic Engineers, Association of Federal Communications Consulting Engineers, National Public Radio and National Religious Broadcasters.

In fact, Myers said, Greenberg was scheduled to go to NAB '97 in Las Vegas for the bureau this month.

At press time the cause of Greenberg's death was not known. He is survived by his mother and a brother and sister.

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World Radio History

AM Expanded Band (Take 3)

► AM BAND, continued from page 1

In announcing the third proposed allotment plan on March 17 of this year, the FCC denied all but one of those petitions. Most raised issues that have already been addressed. One station asked the FCC to consider allowing more stations to migrate to the new band. Two stations criticized the co-primary status given to federal travelers' information stations (TIS), and asked the FCC to force these stations to relocate to 1710 kHz so more assignments could be made at 1610 kHz.

But it was the petition from Sunrise Broadcasting of New York Inc., licensee of WGNV(AM) in Newburgh, N.Y., that led the FCC to rescind its second allot-

ment plan. WGNV, which did not make the cut on either the second or third allotment plan, noted that a nearby TIS station operating at 1610 kHz should have precluded it from an allotment on 1620 kHz, but did not. It concluded that a flawed computer program incorrectly computed the contour separations for federal TIS stations. After examining the program, the FCC agreed and corrected the error.

The FCC staff identified several software errors when it reviewed its frequency preclusion and allotment methodologies. For instance, the preclusion program permitted assignments on 1620 and 1640 in certain parts of the Virgin Islands. However, the Region 2 Treaty

allows expanded band assignments in the U.S. Virgin Islands on 1620 and 1690 kHz only. After an "exhaustive review" of the software programs, the staff eliminated several other coding errors.

The new list

Eighty-eight stations are included in the third proposed allotment plan. Of those, 78 were also on the second allotment plan. Fifty-nine stations are slotted for the same frequencies as they were on the second allotment plan. Nine stations were bumped and 10 were added. Migrating stations will be allowed a 10 kW daytime signal and a 1 kW nighttime signal on the new band.

Stations have until June 16 to file an application for a construction permit on their allotted channels. According to an FCC spokesman, once the allotment plan is beyond the point of administrative and judicial review for a year, the FCC will compile a new plan to fill holes created by stations that choose not to file applications.

KKAR(AM) in Bellevue, Neb. is now eligible for a slot at 1620 kHz. The station is one of 10 operated by the Mitchell Broadcasting Company of Iowa Inc. Allen Sherrill, director of engineering, was surprised by the news, because the station was not included on either the first or second allotment plans.

As a result, Sherrill said, he has not thought much about the expanded band.

Instead, KKAR concentrated on working with what it had, and upgraded its 5 kW daytime power to 25 kW. It still has a 1 kW nighttime license.

"This just kind of floors me," said Sherrill. "I didn't even know we were being considered." Asked if it was too late to consider migrating, Sherrill said, "I don't think it's ever too late."

In October, RW talked with five expanded band applicants listed on the second allotment plan. Two of the five said they were no longer interested in migrating (RW, Oct. 30, 1996).

One of those was WNTM(AM) in Mobile, Ala., which is listed by its old call letters, WKRG. At the time, General Manager Tim Camp said WNTM, which is close to the Gulf of Mexico, would have to compete with signals from South America that spray the upper end of the AM band at night. At that time, WNTM had been approved to increase its power to 1 kW around the clock.

After the release of the second plan, Camp said WNTM notified the commission that it was no longer interested in the expanded band. No matter; in the third allotment plan WKRG is eligible for a slot at 1660 kHz.

"We notified the commission that we weren't going to do it," said Camp. With the new nighttime license, he said, "I think we're better off where we are now."

WNTM is probably the exception. New Petitions for Reconsideration are certain to roll in from those stations still desperate to move into the clear territory north of 1600 kHz.

The stations in the revised expanded band allotment plan			
Call Letters	City	State	Old Freq.
1610 kHz			
KALT	Atlanta	Texas	900
1620 kHz			
WGYJ	Atmore	Ala.	1590
KAHI	Auburn	Calif.	950
KECN	Blackfoot	Idaho	690
WAMJ	South Bend	Ind.	1580
KHRT	Minot	N.D.	1320
KKAR	Bellevue	Neb.	1180
WJRZ	Toms River	N.J.	1550
KENN	Farmington	N.M.	1390
WKZQ	Myrtle Beach	S.C.	1520
WTAW	College Station	Texas	1150
WRRR	Frederiksted	V.I.	1290
KRIZ	Renton	Wash.	1420
1630 kHz			
KWFM	Tucson	Ariz.	940
KOQO	Clovis	Calif.	790
WRDW	Augusta	Ga.	1480
KCJJ	Iowa City	Iowa	1560
KHVN	Fort Worth	Texas	970
KSHY	Fox Farm	Wyo.	1530
1640 kHz			
KBLU	Yuma	Ariz.	560
KNBA	Vallejo	Calif.	1190
WVMI	Biloxi	Miss.	570
WSYD	Mount Airy	N.C.	1300
KLXX	Bismarck-Mandan	N.D.	1270
WTRY	Troy	N.Y.	980
KCRC	Enid	Okla.	1390
KPHP	Lake Oswego	Ore.	1290
KURV	Edinburg	Texas	710
KTKK	Sandy	Utah	630
WKSH	Sussex	Wis.	1370
1650 kHz			
KWHN	Fort Smith	Ark.	1320
KOJY	Costa Mesa	Calif.	540
KRKS	Denver	Colo.	990
WAOK	Atlanta	Ga.	1380
KCFI	Cedar Falls	Iowa	1250
KTMT	Phoenix	Ore.	880
KSVE	El Paso	Texas	1150
WPMH	Portsmouth	Va.	1010
1660 kHz			
WKRG	Mobile	Ala.	710
KLOQ	Merced	Calif.	1580
WMIB	Marco Island	Fla.	1480
WREN	Topeka	Kan.	1250
WQSN	Kalamazoo	Mich.	1470
WGIV	Charlotte	N.C.	1600
KQWB	West Fargo	N.D.	1550
WJDM	Elizabeth	N.J.	1530
KSLM	Salem	Ore.	1390
WCHQ	Camuy	P.R.	1360
KRZI	Waco	Texas	1580
KSOS	Brigham City	Utah	800
1670 kHz			
KHPY	Moreno Valley	Calif.	1530
KHTE	Redding	Calif.	600
KCOL	Ft. Collins	Colo.	1410
WRCC	Warner Robins	Ga.	1600
WLWV	Salisbury	Md.	960
KBTN	Neosho	Mo.	1420
KKEL	Hobbs	N.M.	1480
WTDY	Madison	Wis.	1480

1680 kHz			
KXEX	Fresno	Calif.	1550
KSTR	Grand Junction	Colo.	620
WXTO	Winter Garden	Fla.	1600
KJCK	Junction City	Kan.	1420
KMLB	Monroe	La.	1440
WSFN	Muskegon	Mich.	1600
KBRF	Fergus Falls	Minn.	1250
WHWH	Princeton	N.J.	1350
WKTP	Jonesborough	Tenn.	1590
KBNA	El Paso	Texas	920
KZOK	Seattle	Wash.	1590

1690 kHz			
KRCX	Roseville	Calif.	1110
KQXI	Arvada	Colo.	1550
WBIT	Adel	Ga.	1470
KILR	Estherville	Iowa	1070
WDDD	Johnston City	Ill.	810
WPTX	Lexington Park	Md.	920
KLAT	Houston	Texas	1010
WGOD	Charlotte Amalie	V.I.	1090

1700 kHz			
WEUP	Huntsville	Ala.	1600
KNST	Tucson	Ariz.	790
KQKE	Soledad	Calif.	700
WCMQ	Miami Springs	Fla.	1210
KKSO	Des Moines	Iowa	1390
WZNN	Rochester	N.H.	930
KAST	Astoria	Ore.	1370
KKLS	Rapid City	S.D.	920
KBOR	Brownsville	Texas	1600
KDSX	Denison-Sherman	Texas	950
WSVA	Harrisonburg	Va.	550

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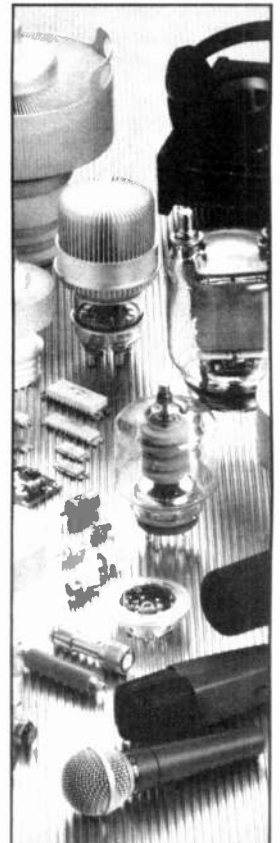
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FCC Eases RF Equipment Authorization

Manufacturers Have Mixed Feelings About Streamlining of Authorization

by Matt Spangler

WASHINGTON A recent FCC vote is aimed at making it a little easier to get new RF equipment out on the market. Believe it or not, manufacturers have mixed feelings about the move.

The Notice of Proposed Rulemaking amends Parts 2, 15, 18, 68 and other parts

of the commission's rules to simplify and streamline the authorization process for RF (radio frequency) equipment. The new rules eliminate the equipment authorization procedure called "notification" process and combine the "type acceptance" process with "certification." No changes were made to the "verification" and "declaration of conformity"

procedures, which are both manufacturer self-authorization programs.

The action also deregulates the equipment authorization requirements for certain types of equipment and provides for electronic filing of applications for equipment authorization.

The FCC believes the move will reduce the number of applications for new equipment authorization required annually from about 3,500 to 1,800. Electronic filing should reduce the filing time from 40 days to less than 20. The commission also estimates that manufacturers should save \$100 million annually by being able to get their equipment to market earlier.

Jim Wood, president and chief engineer of Inovonics, a manufacturer of RF hardware, said the streamlining of the rules may just be the impetus for his company to get into the exciter business. "We've shied away from anything where there has to be a lot of inspection, testing and note-taking," he said, "but if this were a streamlined process, it might be what would kind of push us into it."

Not all manufacturers are thrilled about the prospect of making it easier for a product to get authorized. John Devecka, sales manager of LPB, a manufacturer of low-power transmitters, is concerned that the move might open a Pandora's box, and he criticized FCC Chairman Reed Hundt.

"... (T)hey've streamlined the rules so that you can start marketing a product that isn't even approved yet, and now (Hundt is) going to make it easier for hacks to get equipment through," Devecka said.

Devecka is worried that legitimate manufacturers will suffer as a result of the FCC's newfound leniency. "Right now, the FCC is utterly, completely and totally not enforcing any field rules. They're not enforcing pirate laws, they're not stopping pirate transmitter manufacturers, they're not stopping people from getting certification and then selling a different product, and this bodes horribly for those of us trying to compete," he said.

In January, the FCC extended the deadline for stations to comply with its new RF radiation standards to Sept. 1, 1997.

Sports Format Takes On Many Forms

► SPORTS, continued from page 8
the role has only gotten bigger.

Jeff Dorf, general manager of Prime Sports Radio, said many large groups now own AM stations that do not have a history of making money.

"Sports is a quick fix for that," said Dorf. Most talk radio tends to build its audience last, he said; first the station programs a show, then people talk about it on the street, next advertisers start to buy; then come the numbers. But because sports is an "emotional buy," said Dorf, if you switch to all-sports and start airing basketball, you will probably be able to sell it immediately to a basketball fan. The format can put money on the books quickly.

Likewise, many mom-and-pop stations, struggling as large groups squeeze away their revenue, can benefit from the all-sports format. A small station that flips to sports and uses a service like Prime Sports can keep its overhead low but drive revenue at the same time.

"The audience share converting to revenue is very high as a format for sports talk," said Brennan. WFAN, for instance, does not often rank in the top 10 in New York City.

Gabe Hobbs, director of programming for Jacor Broadcasting, Tampa Bay, Fla., said sports is one format in which you don't need to get significant ratings to get significant revenues. Sports, he said, is a different type of sell, allowing stations to sell sponsorship and plenty of remotes.

Gladstone, who helped WDFN(AM) Detroit turn all-sports, said success for a sports station usually does take longer. Typically, she said, a sports station must be on the air about three years before it takes off.

"It happens a little more slowly," she said. "But once it kicks in, it really kicks in." Another reason the format is so successful, she said, is that it lends itself easily to all kinds of promotions that advertisers love.

But Gladstone said the all-sports format will only work in the top 25 markets, and then only one at a time. Experience shows that markets cannot sustain more than one station, she said. The challenger usually lasts only one or two years.

In Chicago, Gleason said, WMVP(AM) competed against The Score for two years before crying "uncle."

In Tampa, three stations compete

for local sports aficionados. The newest contender is Jacor-owned WDAE(AM), "The Sports Animal," which switched formats Jan. 13. Hobbs said the new format has already exceeded all revenue and audience projections. How quickly the sports format catches on, he said, varies from market to market.

Format fragment

Personality is what keeps sports radio fans hooked. Many stations like WIP have an all-local lineup. The Fan in New York starts the day with Don Imus and keeps its listeners tuned in with entertaining sports talk the rest of the day.

Gleason said The Score relies heavily on personalities to draw people in. The station has "terrific" Time Spent Listening ratings, he said. Daytime station WSCR is seventh in Chicago among all audiences.

Like any other format, Brennan said, all-sports is evolving. One evolution he sees is the change from conservative, staid sports talk announcers to loud young sports personalities.

He said the industry might be witnessing the beginning of a format split between traditional sports talk and "hot young" sports talk.

The Tampa market is a good example. The Sports Animal's main competitor offers traditional sports analysis and statistics. Hobbs said WDAE offers the "guttural, passionate" type of sports discussion a guy would hear in a sports bar. The announcers are not even supposed to use any statistics. With three sports stations in the market, he said, WDAE had to set itself apart.

As for the One-On-One plans for the new stations, Brennan said the network wants "guaranteed clearance" for its programming in the top markets. He expected the network will look for more stations to acquire in the top 15 markets.

"Our program costs are zero," he said. As for taking on the defending champion, according to Brennan, One-On-One is not going after WFAN head to head.

"The Fan is the gorilla. We're not after the banana. We're after the banana peel."

Technology developments have helped make sports radio work. See related story, page 35.

BUSINESS DIGEST

Report business news to: Radio World
P.O. Box 1214, Falls Church, VA 22041
or FAX: (703) 998-2966

Triathlon Broadcasting Can Draw on Bigger Pool: Triathlon Broadcasting Co. signed a written proposal from AT&T Commercial Finance Corp. to increase the company's \$40 million bank credit line to \$80 million. The five-year senior credit facility will be used for acquisitions and working capital needs.

Norman Feuer, president and chief executive officer, said the additional available credit will permit the company to fund all previously announced transactions and pursue additional acquisitions.

The company owns, will own or provide services to 36 radio stations in seven markets in the western United States.

Broadcast Richmond Agreement With DRS Ahead Technology: Broadcast Richmond Inc. signed an agreement for the exclusive international sales and distribution rights of the ITC Audio Tape Cartridge machine product line with DRS Ahead Technology Inc., a San Jose, Calif.-based subsidiary of Diagnostic/Retrieval Systems Inc.

DRS Ahead Technology acquired the audio tape cart machine product line in January from International Tapetronics Corp. (ITC).

Purchase Complete for EVI Audio: Greenwich Street Capital Partners has completed the purchase of Mark IV Audio. The company is now known as EVI Audio.

Brands operated under the EVI Audio banner include: Altec Lansing, Electro-Voice, DDA, Dynacord, Gauss, Klark Teknik, Merlin, Midas, University Sound and Vega.

"This is the first tangible change for

our employees and customers under this new ownership," said EVI Audio's President Bob Pabst.

EVI Audio is based in Buchanan, Mich.

Behringer to Pay Damages: Apex Systems Ltd. and AKG Acoustics in Munich have settled claims against Behringer for patent infringement on the Apex Aural Exciter for approximately \$450,000, according to Apex.

In August of 1992, Behringer was found guilty of the original patent infringement suit filed against them in Germany in 1987. The German courts awarded a settlement that was unacceptable to Apex and AKG, who subsequently filed an additional law suit for recovery of damages for \$910,000.

Marvin Caesar, president of Apex Systems, said he doubted Behringer "would have attempted this in the United States, simply because punitive damages work so well."

He said, "As a result of our battle, we hope that other industry members will fight to protect their own intellectual property rights as well as help protect and respect the rights of others."

Clark Broadcasting Closes Sale: Clark Broadcasting Co. has sold its radio station, WGCO(FM), to New Adventure, a subsidiary of Adventure Communications Inc., based in Bluefield, W.Va.

Virginia-based Clark owns and operates radio stations in five markets including Maryland, Virginia and Kentucky.

New Adventure owns radio stations serving Savannah, Ga., Hilton Head, S.C. and other stations in West Virginia and North Carolina.

Tauzin Wants Alcohol Code

Meanwhile, Arbitron Offers Service to Help Beer And Wine Advertisers Reach Legal Drinkers

by Bob Rusk

WASHINGTON Rep. Billy Tauzin, R-La., wants to grant broadcasters a limited antitrust exemption for establishing a voluntary limit on airing alcohol advertisements.

The House Telecommunications Subcommittee chairman has said he is not in favor of government regulation of the airwaves, but does not want children exposed to liquor spots. Tauzin was planning to introduce a bill by late spring.

"He has made it pretty clear that he wants the industry to regulate itself," said Elizabeth Board, spokeswoman for the Distilled Spirits Council of the United States (DISCUS). "Representative Tauzin wants the (hard) liquor, wine and beer industries to get together with broadcasters and come up with their own code."

Board stressed that DISCUS already has its own voluntary code in place, but is "very much interested in Representative Tauzin's proposal. We would like to sit down and talk to the other industries about it."

On the broadcast side, NAB spokesman Dennis Wharton said, "We appreciate Representative Tauzin's interest, but there are some serious First Amendment and antitrust concerns in this area."

A Federal Trade Commission spokesperson said that if radio and television broadcasters worked together to develop a voluntary ad limit, they could be in violation of antitrust laws for collaborating. FTC Chairman Robert Pitofsky, however, has said an antitrust exemption for broadcasters would be "worth discussing."

A radio industry source who spoke on the condition of anonymity balked at Tauzin's idea, saying most broadcasters have "stepped up to the plate on this issue" by refusing to air hard liquor spots.

Tauzin's spokesman, Ken Johnson, said the congressman wants to complete meetings with all sides before introducing legislation.

"We want to make certain that this is an avenue they want us to pursue," Johnson said. "That includes broadcasting, cable, the distilled spirits industry and beer and wine. If one or more parties resist the whole notion of a voluntary code of conduct, it doesn't make sense for us to waste our time introducing legislation."

Johnson said, "(If) everyone agrees they would like to pursue this, and we can facilitate that by getting them a limited exemption, then we will move forward legislatively."

Rep. Joe Kennedy, D-Mass., meanwhile, has reintroduced legislation that would ban hard liquor advertising on radio and television.

The proposal is virtually the same as the "Just Say No" bill Kennedy introduced last year, which had little support. He is not expected to muster more support this time around.

"Over the years, individual stations have adopted their own standards regarding the acceptability of hard liquor advertising," said the NAB's Wharton. "We believe this process has served American consumers well. Stations continue to make judgments every day on what is most

appropriate for their local audiences."

Arbitron targets 21+

Meanwhile, The Arbitron Company has launched a new radio service designed to help beer and wine companies target consumers of legal drinking age — while also avoiding underage consumers.

The reports will detail radio station audiences based on 21+ age demographics.

"Arbitron customers using Media

Professional software have long been able to tabulate custom 21+ demographics to refine their marketing efforts," said Linda Dupree, vice president, Sales Advertising Agency Services, The Arbitron Company. "By offering these reports on an as-needed basis, we hope to assist wine and beer radio advertisers in the proper targeting of their advertising messages."

She said, "The standard young adult demographics of age 18-24, 18-34 and 18-49 were devised for general consumer marketing. We realize that these reports are not appropriate for beer and wine marketers. With our 21+ custom report service, we can help advertisers identify the station(s) and day parts which best



Rep. Billy Tauzin

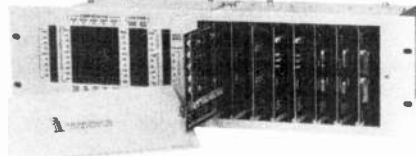
reach the legal age consumer(s) for local and national radio buys."

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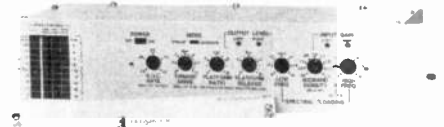


250 - Programmable 5-band Stereo Processor

Gated AGC, 5-band Compression and EQ, split-spectrum Limiting—all with colorless, quasi-digital PWM gain control. Manually pre-program several processing presets or place the unit entirely under RS-232 control.

255 - "Spectral-Loading" FM Processor

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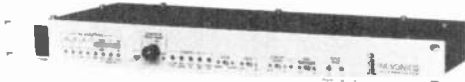


260 - FM/TV "Utility" Processor

Stereo "gain-riding" AGC and a split-spectrum Compressor/Limiter control average and peak levels. Ideal for TV-aural and budget FMs.

716 - "DAVID-II" FM Processor / Stereo Gen

A tight, smooth AGC/Compressor/Limiter coupled with clean Digital Synthesis of the multiplex baseband signal. Also features internal RDS/SCA combining and a built-in Composite Processor. Outstanding, affordable performance has made "DAVID-II" a popular and legendary product.

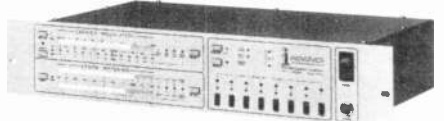


708 - Digital Synthesis Stereo Generator

A basic Stereo-Gen with impeccable specifications. Includes front-panel metering, internal subcarrier combining and a built-in Composite Processor.

530 - Off-Air FM Modulation Monitor

Accurate, easy-to-read display shows total modulation, pilot injection, stereo separation and crosstalk, RF signal strength and multipath distortion. Alarm outputs for overmodulation, carrier and program audio loss. Eight station presets facilitate quick modulation comparisons.



630 - FM "Relay" Receiver

A professional receiver for translator (re-broadcast) and other demanding off-air pickups. Features composite MPX and balanced stereo program outputs, synthesized tuning, selectable bandwidth, metering, alarms and remote control.

710 - RDS Encoder

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FCC Gets Deadline on RTNDA Petition

by Matt Spangler

WASHINGTON A ruling by the U.S. Circuit Court of Appeals for the District of Columbia may require the Federal Communications Commission to act within six months on its decade-old proceeding that would repeal or modify the personal attack and political editorial rules.

The Radio Television News Directors Association had filed a writ of mandamus that would require the FCC to act immediately on the proceeding (see *RW*, Feb. 5). On Feb. 7, the court denied the writ "without prejudice to its renewal," meaning that if the FCC did not act within a specified time frame, the writ would be invoked. The court gave a deadline of Aug. 7, 1997.

Bill Yeager, chairman of RTNDA's Freedom of Information Committee, expressed pleasure with the court's decision. "The commission's avoidance of our petition for nine years is about to come to an end," he said. "We've responded to every comment, reply and waiting period that the FCC has put in our way, and we are pleased to finally have a deadline for a long-overdue decision."

The FCC issued a report and order in 1987 that repealed the Fairness Doctrine. That same year, RTNDA petitioned the commission to repeal the personal attack and political editorial rules, too. In that document, RTNDA cited numerous instances in which the commission characterized the rules as a part of the doctrine.

When the commission adopted the rules in 1967, it declared: "These rules will serve to effectuate important aspects of the well-established Fairness Doctrine." The rules stipulate that when a station airs a commentary that sides with or attacks a political candidate, the opposing candidate must be given a chance to respond or defend his or her position on that same station.

In 1983 the FCC proposed "to repeal its personal attack and political editorial rules, on grounds that those rules inhibit broadcast speech in contravention of the First Amendment and that they disserve the public interest in the widest possible

The commission's avoidance of our petition for nine years is about to come to an end.

— Bill Yeager,
RTNDA Freedom of Information
Committee Chairman

dissemination of viewpoints on controversial issues."

RTNDA also argued that in *Red Lion Broadcasting Co. vs. FCC (1969)*, the Supreme Court characterized the personal attack and political editorial rules as "manifestations" of the Fairness Doctrine. One of the court's major objections to the rules is that the station airing the political editorial does not have the opportunity to present the viewpoint of the "attacked party," instead giving that privilege to that party.

Writs and comments

The FCC did not act on its proposal, so in 1990 RTNDA filed another petition, this time with the support of The Freedom of Expression Foundation, The Media Institute, The Reporters Committee for Freedom of the Press and the Society of Professional Journalists. That document stated that, in the interim, the Department of Justice had also called the personal attack and political editorial rules unconstitutional.

Last September, RTNDA asked the D.C. court to intervene, calling for a writ of mandamus, a legal remedy traditionally only used in extraordinary circumstances. It demanded that the FCC act on RTNDA's petitions by Dec. 26.

The commission responded by issuing a public notice for comment on the issue.

In comments filed with the FCC on Feb. 12, RTNDA reiterated its position in support of repeal of the rules. It argued that no circumstances have developed that necessitate another comment period, and again asked the court to issue a writ of mandamus.

Similar comments were filed by the National Association of Broadcasters, the Freedom of Expression Foundation, CBS Inc., Paxson Communications and Demaree Media.

Another party filed comments supporting the personal attack and political editorial rules. Media Access Project, a public interest law firm devoted to electronic media issues, said the FCC should denounce *Syracuse Peace Council*, the

1987 decision whereby the commission ceased enforcing the Fairness Doctrine.

Media Access Project said that *Syracuse Peace Council* "subverts" the public interest components of a number of government processes: the license renewal process; the 1990 Children's Television Act, which requires TV broadcasters to provide a certain amount of educational children's programming; the 1992 Cable Act, which imposed public interest requirements upon direct broadcast satellite providers; and other areas, such as the public interest requirements of the new digital TV broadcasters.

RTNDA characterized the Media Access Project comments as diversionary tactics, saying MAP was attempting "to lead the commission astray by arguing that the commission should reexamine matters which have long been resolved, specifically, the repeal of the Fairness Doctrine."

Charles Logan, chief of the legal branch of the Mass Media Bureau's Policy and Rules Division, said that the commission is still "actively" looking into the case.

NAB Honors VOA, RFE Engineer George Jacobs

by Mark Lapidus

LAS VEGAS A cold warrior was the hot item at the Technology Luncheon at this month's National Association of Broadcasters show in Las Vegas. The 1997 NAB Radio Engineering Achievement Award went to George Jacobs.

It takes a career of brilliant innovation, solid conviction and hard work to

It should be an award recognizing the value of shortwave broadcasting.

— George Jacobs

nab the Engineering Achievement Award. Only one radio engineer is recognized each year for notable contributions in one or more of the following categories: inventions, development of new techniques, dissemination of technical knowledge and literature, leadership in broadcast engineering affairs or an outstanding contribution that warrants recognition.

Jacobs retired from government service with the rank of senior federal executive in 1980. Since then, he has headed his own consulting and engineering firm in Silver Spring, Md., George Jacobs & Associates Inc., specializing in international broadcasting.

Over the last five decades, he was instrumental in the development and launch of the worldwide technical

broadcasting system for Voice of America, and the modernization of Radio Free Europe and Radio Free Liberty. Jacobs also established several FCC-licensed shortwave stations, converted ex-Soviet jamming stations into commercial broadcasting facilities and represented the United States at many international telecommunications conferences.

"I hope that this isn't an award for me personally," Jacobs said. "It should be an award recognizing the value of shortwave broadcasting. One might say, what is that value? It helped to win the Cold War."

"One of the greatest successes I've had in my life is to have contributed to the end of the Cold War without a shot being fired. We fought our war with words rather than missiles. The arena for that war was the shortwave broadcasting band. No other media got through. It was enough of a link that they themselves overthrew the government."

He tells a story to illustrate his point. Jacobs and his wife were visiting friends of friends in Hungary a few years ago. They asked him what he did for a living. When he told them he did engineering work for VOA and Radio Free Europe, they became excited.

"You're a hero in our country, Jacobs. We must throw a neighborhood party for you," they said.

When Jacobs returned the next day, he received a round of applause from the people assembled to meet the man who helped bring them through the "dark days" of Communism.

"That's the real reward for the work I've done over the last 56 years," Jacobs said.

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and enhances redundancy. If you *remove a hot-pluggable RF module from a Platinum Z transmitter at any time, for any reason, the remaining modules will compensate to continue broadcasting at full power.* Incredible RF module MTBF of 250,000 hours further ensures the reliable performance of Platinum Z.

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MAB Members Face New Kinds of Battles

by Sharon Rae

LANSING, Mich. Radio stations in Michigan are fighting for qualified technical people.

"In the state of Michigan we are fortunate to have just a 3-percent unemployment pool," said Michigan Association of Broadcasters President Karole White. "But statistics tell us that out of 3 percent, only 1 percent is either looking for a job or capable of holding a job. So, here we are in broadcasting with new technological challenges, and only 1

percent of the population looking for a job, and every industry is out after them."

White made those comments during the 1997 Great Lakes Broadcasting Conference and Expo, which carried the theme of "Re-Engineering the Broadcast Industry." The annual convention enjoyed high attendance.

"About 1,200 attendees," White said. "Strong numbers of general managers, and about an equal number of engineers."

White thought the re-engineering of the broadcast industry was a long time in coming.



Stan Freberg (right) and MAB Member Services Director Sandra Weidlich

"We are a little late in this downsizing and this joining together," she said.

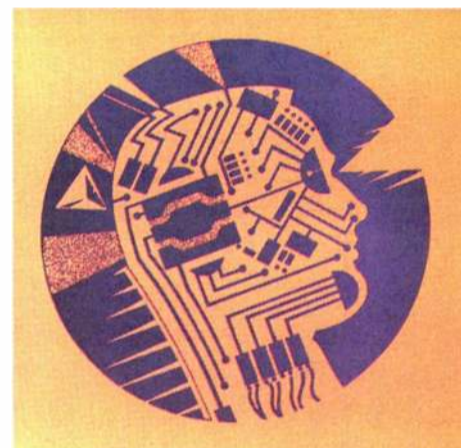
"Other industries have done this long before. That creates a whole new group of needs ... and we are re-engineering the broadcast association to meet the needs of our members."

Those needs in Michigan, according to White, appear to include the ability to hire highly qualified technical individuals for stations.

LMA's and EAS

"One of the largest issues (at the show) was engineering in an LMA atmosphere," said White. "If you have a local management agreement, or even a

duopoly atmosphere where one engineer is called upon to be the chief engineer for up to six, seven, eight stations, how does that individual deal? What kinds of economies do they need to be looking for, as far as time to do the job ... keep all the stations on the air all the



time? It's an incredible job."

The launch of the new Emergency Alert System was the topic of another session.

"It's up and running in Michigan," said White. "But 'running' is the word that's sort of shaky. Many of our members felt they were not given enough time to institute and get this new system up and rolling."


Up tempo

MAB Education Director Chris Suever said the mood of the conference was upbeat.

"Everybody seems more positive about the industry ... I don't know if they are less jittery about the changes in ownership and management ... but radio has seen a very steady growth in advertising sales, so business is continually growing and they're not foreseeing a slump in the future."

Other presenters at the Great Lakes conference included state Sen. John












See MAB, on page 17 ▶




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► MAB, continued from page 16

Cherry, radio sales guru Irwin Pollack and renowned comedian and ad man Stan Freberg.

"He blew the crowd away; they just loved him. He was very, very good," said Suever. Freberg hosted a luncheon and emceed the MAB Broadcast Excellence Awards, honoring stations of all market sizes.

Staying ahead of the game

FCC Commissioner Susan Ness talked to conferees about regulatory issues, new technology and consolidation. She called broadcasting "an insurance policy for democracy," and told the crowd she believes in free over-the-air broadcasting. "I don't believe it's in our nation's interest for citizens to rely solely on a bottleneck provider ... for news and information."

...my hope is that the engineers working on in-band will come up with a satisfactory transmission system.

— FCC Commissioner
Susan Ness

Ness cited the unprecedented level of station trading following the passage of the Telecom Act. "Congress re-engineered radio ownership with the stroke of a pen ... consolidation is alive and well in the radio industry."

While "big isn't necessarily bad," she told broadcasters the Telecom Act also states the FCC has an obligation to approve only transfers that are in the public interest.

"That means it's important for us to assess what effect the combination will have on local competition and on diversity of voices," she said. "Indeed, radio duopolies have enabled providers to diversify into programming that otherwise might not have been carried."

The move to digital transmission was another highlight of Ness' address. She touched on the controversy over in-band digital audio broadcasting vs. systems that use other spectrum, i.e. the L-band.

"What radio broadcasters are facing today is what the audience is likely to demand ... many of you have already converted parts of your production chain to digital. Radio stations cannot fall behind. I've followed the developments of the in-band digital technology, and my hope is that the engineers working on in-band will come up with a satisfactory transmission system."

Hi-tech tools

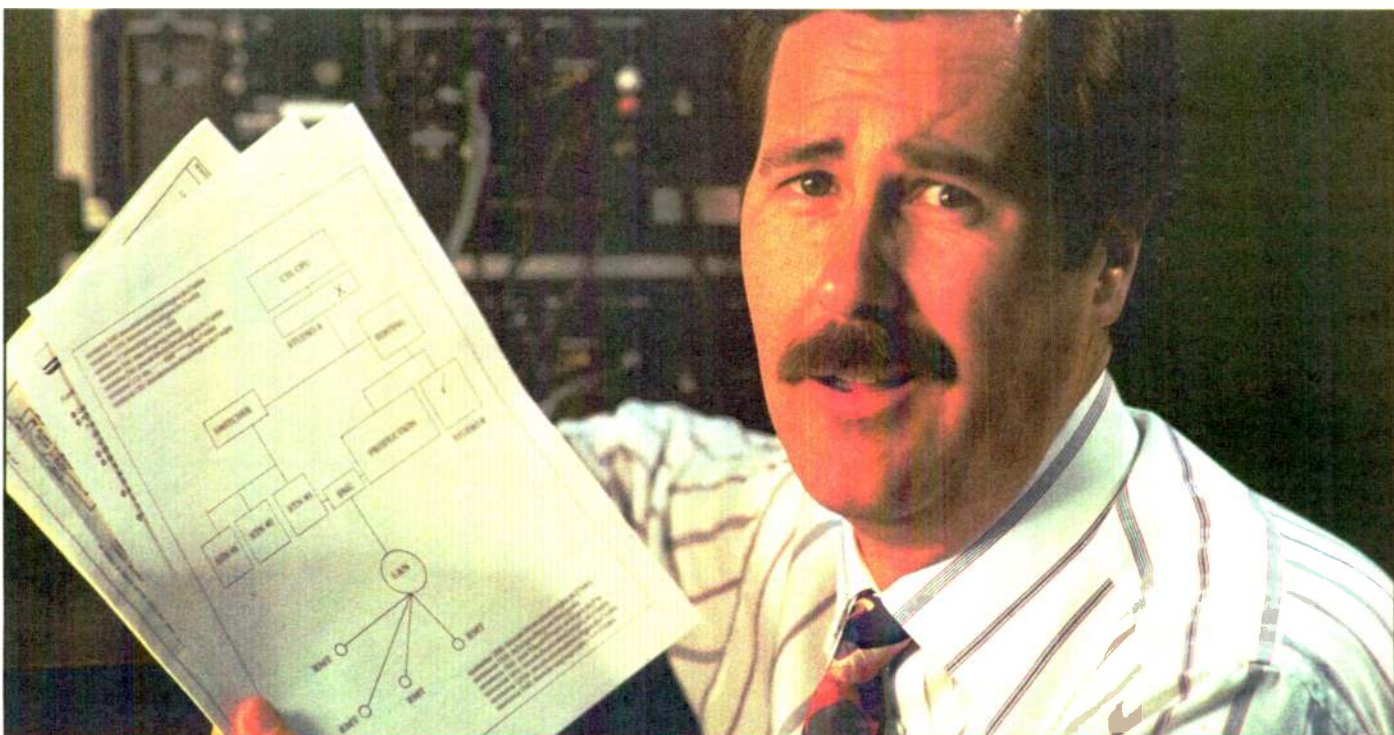
"We must determine and work together to see how radio broadcasters can get into the digital world," Ness said. "... (W)e've had a lot of broadcasting continue on the same spectrum. Westinghouse ... is devoting considerable resources to working on an in-band system. We should know the results within a year. Others may also be working on in-band systems as well."

On the other hand, Ness pointed out, some have said a separate band for digital broadcasting is needed.

Visitors to the exhibit floor got an ear-

ly peek at products that would be featured at the big spring NAB convention, including the Comrex HotLine digital POTS codec, 360 Systems' Shortcut digital audio editor and the Fidelipac Dynamax Digital Desk air console.

Among the winners of the 1997 Broadcast Excellence Station of the Year award were these radio broadcasters: David Hammond, Michigan Radio, Ann Arbor (top left); Maria and Greg Jablonski, WHML-FM, Howell (top right); Dick Hoefner, WJR(AM), Detroit (bottom left); Dave Mauer, WSGW(AM), Saginaw (bottom, second from left).



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Selling Public Radio Stations

by Lynn Meadows

WASHINGTON Like the rest of this city, the University of the District of Columbia is in financial trouble. Over the past five years, city appropriations for the school have plummeted from \$80 million to \$37 million.

The resulting budget shortfall leaves the university's president in the awkward position of having to lay off staff and sell assets. One of those assets is WDCU(FM), a 5,400 W radio station at 90.1 MHz.

"The issue for UDC is that we are facing a severe deficit problem," said the university's chief financial officer, Don Rickford. "We really don't want to sell."

Rickford said the school could not let any staff go before April 1, so savings for this school year are limited. He said the school hopes to net \$5-6 million for the jazz station, which is operated primarily by community volunteers.

At least 14 people have expressed an interest in buying WDCU, according to Rickford. One of those is rumored to be non-commercial WETA-FM in Washington. At least two other prospective buyers are religious-affiliated. School officials continue, reluctantly, to inch closer to talking with a lawyer and the Federal Communications Commission about the sale.

Further south, another non-commercial station — this one at a high school — may

be sold to raise money for another financially strapped school system. After much debate about making its station self-sufficient, the York County School board in Yorktown, Va. issued a request for proposals in February seeking bids on WYCS(FM), a 20 kW station at 91.5 MHz.

"It's very tight, budget-wise," said a school board spokeswoman. She said the station is not a money-maker and the school board is soliciting bids to see what they can get for it. Four groups have already expressed an interest in the station, including WHRO(FM) Norfolk and two Christian radio groups.

One might conclude that this is the latest trend in public broadcasting: institu-

tions selling radio properties to raise cash. Lynn Chadwick of the National Federation of Community Broadcasters disagrees. The real trend, she said, is for institutions to transfer their radio licenses to local non-profit organizations for minimal amounts of money.

Under this arrangement, the institution is relieved of the financial burden of operating a radio station, yet the "community" programming remains the same.

WNYC-AM-FM in New York City falls into this category, although the money involved in that exchange would thrill both UDC and the York County School Board. WNYC(AM) had been a city-licensed station since 1924. Located at 820 kHz, the station signed an agreement with the FCC in 1993, promising not to broadcast commercials.

Ocean-front property

WNYC(FM) at 93.9 MHz had no such agreement. Because the frequency is above the band reserved for non-commercial stations (88-91.9 MHz) and located in the nation's top market, it could be considered "ocean-front property."

When Mayor Rudolph Giuliani decided that the city should not be in the broadcasting business, he must have anticipated getting a substantial sum for the sale of the two stations. In March 1995, however, the city announced an agreement to transfer the two licenses to the WNYC Foundation for \$20 million, payable over six years.

The Foundation is a group formed in 1979 as the fundraising arm of the stations. Over the years, according to John Platt, director of marketing and communications, the WNYC Foundation raised money to support the two stations, providing 90 percent of the budget. In January, the stations changed hands and the Foundation made its first payment to the city for \$3.3 million.

No one knows how much the two stations might have brought on the open market. In 1995, according to Platt, an investment firm valued them between \$40 and \$50 million. However, the same firm underestimated the worth of the city's television station, which sold to a commercial broadcaster last July for \$207 million.

Religious broadcasters

When institutions do sell their non-commercial frequencies outright, religious broadcasters often buy them. Since the late 1980s, when the FCC changed the rules for translator stations, religious broadcasters have been scooping up a lot of the frequencies in the non-commercial band.

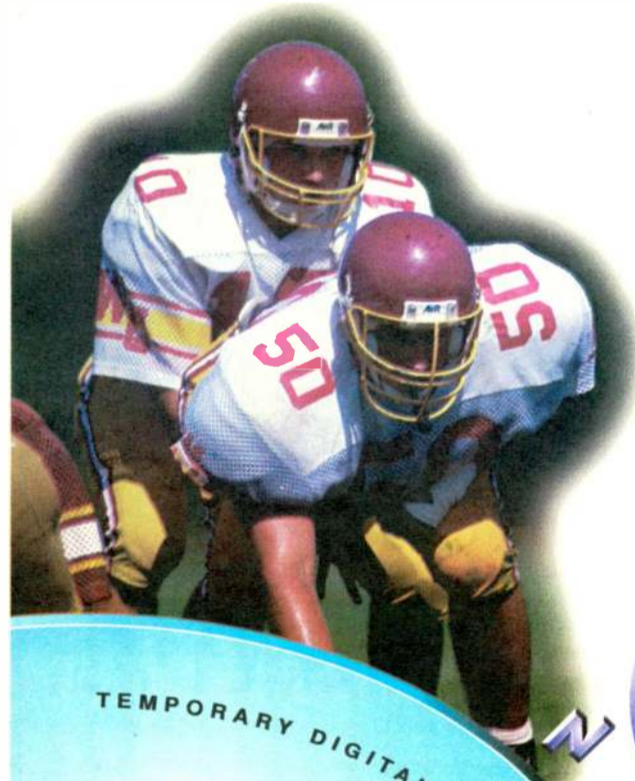
Some observers say as much as 50 percent of the educational band is controlled by religious broadcasters. Statistics from the National Religious Broadcasters association do not support that; the figure is probably closer to one-third. According to the NRB, approximately 1,648 full-time religious stations were on the air in 1996. Of those, 32 percent, or a bit more than 525, were non-commercial. As of Jan. 31, according to the FCC, a total of 1,868 stations were operating on the FM educational band.

Like the prices of commercial stations, Chadwick said, the cost of purchasing a non-commercial station has increased, especially in areas where vacancies no longer exist. The prices still do not compare with the phenomenal amounts spent for commercial frequencies, however.

"The truth is, you put money into non-commercial stations," said Chadwick with a laugh.

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GUEST COMMENTARY

Weather Radio Is an EAS Partner

Gary Timm

With input from broadcasters and the FCC, the National Weather Service (NWS) has created a more EAS-friendly NOAA Weather Radio (NWR) service.

Years ago, the mission of NWR was broadened to "All Hazards Radio," but with the telephone as the only means of communications with local officials on these non-weather emergencies. With the onset of EAS, the NWS has instituted a sweeping statement that clears the way for NWR to become a full participant in the local alerting structure. The new statement, called the "EAS Interim Service Policy," allows local Weather Service Offices to make immediate changes that enhance NWR participation in EAS.

EAS units on NWR

NWR stations are now allowed to install an EAS Encoder/Decoder to intercept and rebroadcast EAS alerts. This would be the same type EAS unit and receivers as used by broadcasters. With a receiver on the local EAS two-way radio channel, NWR could automatically carry EAS-encoded alerts from local county officials. In addition, by monitoring a national EAS source, NWR could become one of the two mandated EAS inputs. FCC policy previously forbade that practice, due to the lack of that national connection.

The goal is to make this system automatic, so that no NWS staff intervention is needed. A problem identified is that if you wish to include the NWS 1050 Hz Alert Tone on these EAS alerts to unmute older Weather Radio receivers, that tone normally needs to be manually triggered on the NWR program console. One possible solution is to use the non-volatile memory available in some EAS units to pre-record a 1050 Hz tone, and even a short message, if desired. This tone and message is placed in the header code by the EAS unit during the retransmission, allowing the EAS unit to do the entire alert by itself. The NWR program console audio would be interrupted by the EAS unit's loop-through contacts during the EAS alert rebroadcast.

As you probably guessed, NWS has no money to buy EAS units itself. They "can accept loaned EAS equipment ... from external sources ... on a case-by-case basis," so get your fundraising ideas going.

NWS adopts FCC EAS codes

Although the FCC EAS codes and the codes sent by NWS's SAME (Specific Area Message Encoder) use identical technical protocol, until the policy statement, NWR was using some SAME Codes that are not on the FCC's EAS Event Code list. The most infamous was the NWS weekly test code, "-TEST-". Some EAS units did not respond to this four-letter, non-EAS code. With NWS adopting the FCC EAS code list, this problem is cured.

This action also added the EAS test codes to the NWS list, which were not there before. NWR is now directed to send the EAS code "RWT" for their

Required Weekly Test. For any Required Monthly Test run by NWR pursuant to State/Local EAS Plans, they are to use the EAS Code "RMT." When sending practice alerts, the EAS Demo code, "DMO," is to be used.

Incidentally, there should be a list of expanded, non-weather event codes added to the EAS Rules shortly. They were developed through cooperation of the FCC, NWS and FEMA.

On the subject of EAS codes: Be aware of a possible problem. Some older NWR encoders produce only "NNN" for End-of-Message, not the "NNNN" that EAS requires. If NWR messages print all right but you are not getting EOM's decoded, have your NWR staff check

with the encoder manufacturer for the "NNN" problem.

Expanded coverage areas

If your local NWR station does not issue alerts for an outlying county in your broadcast station's coverage area, you can ask the NWR station to add that county to its list. The new policy does outline two criteria for this request to be honored: Your broadcast station must be within 40 miles of the NWR transmitter (their primary Service Area), and the county you want them to add must be within their county warning area of responsibility. Both of these guidelines are flexible, so go ahead and ask if you think you are a candidate.

Because this added county is speci-

cally for you as a broadcaster, they will only send the EAS code and a single message. The 1050 Hz Alert Tone and repeat announcements will not be done, because they assume no consumer-grade weather radios can receive the alert in that distant county.

If there are counties in your state not served by any NWR station, this is a great way to get coverage added, at least from a broadcaster standpoint.

'Not on my station!'

With the automatic nature of EAS gear, NWS personnel are aware they may be carried live on broadcast stations more frequently. They are making a renewed effort, both on the personal and national-policy level, to sound better on the air. The NWS policy made a strong point that "broadcasts in the most professional manner" and "proficiency in using the encoder" are "critically important." Take heart if you get a lot of "DMO" printouts.

See NWR, page 20 ▶

Talking EAS at the Local Level

Alan R. Peterson

It is a story playing out in radio stations in a number of markets. EAS tests fail for a number of reasons: operator unfamiliarity with the EAS devices, expired message validity times, boxes that rewrite test codes. After a handful of monthly tests, the snags in the new Emergency Alert System are revealing themselves.

In markets where tornadoes, industrial disasters and floods would constitute the majority of EAS activations, the results would be catastrophic. But failed tests have been happening in Washington, D.C. — right in the FCC's own backyard.

In February, SBE Chapter 37 (Washington) met to discuss the EAS system and the status of the organization of the EAS plan for the District. The meeting was a microcosm of problems facing broadcasters around the country.

Big space

The meeting was conducted in the spacious Studio A of WRC-TV. Among sets for NBC's "Meet the Press" and "George Michael's Sports Machine," chapter Chairman Ed Bukont brought the meeting of 60 engineers and concerned guests to order.

Present at the meeting were David Sturdivant and Frank Lucia of the FCC, Barbara McNaught-Watson of the National Weather Service (NWS), Maury Blum, representing organizers of the Maryland EAS plan, and Mike Friedman of the Virginia EAS plan.

One of the first matters settled at the meeting was, yes, EAS is still a work in progress.

"The tests causing the most agony," said Lucia, "have been the Required Monthly Tests (RMTs). Some stations have been receiving codes and then retransmitting them with different headers. A monthly test should go through the whole system unchanged."

The talk covered several problems. Some stations relayed the message but left off the end-of-message (EOM) code. Processing units in station airchains might corrupt message integrity. A station might run a music bed underneath the audible squawk of the data stream.

Engineer Eric Hoehn, leading the organization of the local EAS plan for

Washington, pointed out that broadcasters in the area had only experienced two actual RMTs before the meeting, and that the local plan was still in draft form, open to revision.

Hoehn also said software and hardware bugs in the EAS devices had been identified, and that manufacturers were working on revisions. One station's encoder had software problems that caused a clock error and left a validity time of only 1 minute. Such a problem could cause the rapid erasure of messages that go beyond the validity time for such a message.

For example, if an AM daytimer received an alert at 3 a.m., it would have been unable to retransmit the message following a 6 a.m. sign-on. A 15-minute validity window would have long since expired.

Monitoring stations

Also of concern to the broadcasters present was the issue of station monitoring. Washington has a unique situation in which one FM station positions itself as a Washington entity, yet is licensed to Manassas, and has studios in Fairfax and a tower site in Merrifield, all in Northern Virginia. The station also simulcasts on an AM in Baltimore. Obviously, the issues can be confusing. With three regions involved, what codes should the engineers set the EAS unit to detect, and what should they rebroadcast?

Problems can also result if the EOM is omitted. The EAS equipment at participating stations, upon receiving an alert, can "grab" the program line and go live with emergency messages. If an end-of-message signal is not received, the box continues to air the local primary (LP-1 or LP-2) station.

In Washington, this has resulted in participating stations airing all-news WTOP(AM) for several minutes following an incomplete test.

If EAS can hiccup at this level, how will it behave during a major national emergency?

In the event of a National Level Alert, the government has direct access into the EAS chain at the Primary Entry Point, or PEP. More than 30 stations are tied directly into the federal government; all can be activated simultaneously. Rather

than only one station originating the message, 30 at a time can initiate the EAS chain.

Time to ditch EBS?

Lucia commented on the defunct EBS protocol and caught the attention of some in the crowd by stating, "Don't throw away your old EBS boxes."

Technically, EAS is still a work-in-progress; bugs exist. This means EBS is still considered a more reliable system.

"Don't do any more EBS tests," said Lucia, "and don't log any EBS. If you don't have EAS yet, use EBS. And if you do have an EBS box, keep it in the rack until Jan. 1, 1998. We are not aggressively going out to see who does or does not have an EAS box ... yet. But on Jan. 1, EBS goes away forever."

This prompted the question, "So why abandon EBS at all?" The answers: EBS cannot work in an unattended environment;

See EAS, page 20 ▶

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KEYBOARD CONNECTION

Portable Computing: More for Less

Barry Mishkind

Until recently, the regular rapid drops in the price of computers seemed to bypass laptop and notebook computers. Perhaps the high "field attrition rate" from accidents or thefts has kept demand up and prices relatively high. But that's changing.

In fact, in the time it took to prepare this column, prices for low-end notebook computers plunged as much as \$800! You can now purchase a full, Pentium-based notebook, with color screen, 800 MB-to-1 GB hard drive, modem, a CD ROM reader and software for less than \$1,300.

This makes portable computing affordable for a new group of people, including engineers and salespeople at smaller stations. Multiple transmitters can be monitored and adjusted from locations several states away. Multimedia sales presentations can be tailored for different clients in minutes.

Nevertheless, selecting the right notebook computer is a matter of careful weighing of your needs. The manufacturers

haven't made it easy. Companies that offered two or three models now sell dozens.

As with a desktop, you should not select a computer solely by its clock speed. There are more important features, especially when you consider the processors in almost all new notebooks are speedy enough to handle the majority of software you are likely to use.

For example, the first real portable computer I purchased (in the early 1980s) was an NEC Multispeed. I selected it largely because it had the best keyboard feel and display legibility. While I couldn't then afford a unit with a hard disk, the NEC was a solid, reliable machine, and operated easily. It was a real help in my work.

That's still a good standard for choosing

a modern computer. Picking a screen is much easier today, because technology has made even many of the dual scan screens brighter and easier to read. If your budget can stand an extra \$500 or so, the active display may be better for operation over a



Psion's Series 3c Personal Digital Assistant

wider variety of light levels.

Keyboards require a different sort of choice. Primarily, the "feel" to your hand is important. Even two-finger typists benefit from a high-quality keyboard. But pay close attention to the layout of the unit, specifically the pointing device control. On some units, this is a little post in the middle of the keyboard, or a ball embedded in the front. My personal favorite is the touchpad featured on many units. Just by gliding your finger, you quickly and accurately move the pointer.

If you tend to spend time away from wall sockets, check the battery life. A car adapter is a good option, and

makes using the notebook as a GPS receiver/plotter a snap.

Even the more modest units feature CD ROMs, approximately 1 GB of hard drive space and 8 MB of RAM. Modems and sound are built into many units. That said, if you can afford it, *add memory*. Right now an 8 or 16 MB upgrade is economical. Particularly if you plan to run Win95, the extra memory option is worth it.

However, perhaps my strongest recommendation is to buy a name-brand unit. The warranty and customer service support, far better than that for non-branded machines, make it worthwhile, especially if you move.

In recent months, I've gone back to my portable "roots" with an NEC Versa 2400 series notebook. It has proved to be a solid, super companion. The keyboard feel and display were as good as I expected; battery life was quite good. The VersaGlide touchpad worked better than a mouse or other pointer controls.

Is smaller better?

Now, what is this uproar over palm-tops? For some folks, having a complete computer that fits in a pocket is important, even if the keyboard is so compact it is hard not to hit two or three keys at once.

Casio, Hewlett-Packard, Epson and others have introduced these little fellows. They come complete with up to 2 or 4 MB of RAM, a touch screen and Microsoft WindowsCE, a special version of Win95. Copying and moving files is done by wire or infrared links.

So far, the reviews have been mixed. In my experience, these first versions with WindowsCE are useful but not quite ready for prime time. Perhaps the next models will bring sufficient speed. Still,

See PORTABLES, page 22 ▶

NWS Works on EAS

▶ NWR, continued from page 19
It just means they are practicing.

If your disdain for NWR is poor audio quality, most times it can be improved ... if someone takes the time to report the problem to them. Have your EAS Chair rattle their cage.

Call your WCM

This restructuring affords a much stronger EAS role for NWR, but their inclusion may need to be spearheaded by area broadcasters. Don't forget NOAA Weather Radio in your local EAS planning. To get things rolling, call your local NWS Office and dial extension "726" to reach the WCM (Warning Coordination Meteorologist) who is responsible for these matters.

While talking to your WCM, remind him/her of these important, EAS-related topics: Be sure the time-of-day clock in the NWR SAME unit is checked frequently for accuracy. Messages with an incorrect time could be ignored as "expired" by EAS units.

On warning scripts, the "countdown for broadcasters" can now be dropped.

Also in regard to scripts, warn them that messages should now be limited to 90 seconds. Most EAS units will cut off a message longer than two minutes, the timing of which includes the header code and 1050 Hz tone. This leaves only about 90 seconds for the actual audio message.

No change in alerting sequence

In the current NWR alerting sequence, the SAME Code is followed by the 1050 Hz Warning Alarm Tone (WAT). Broadcasters have asked if the WAT can be moved to precede the SAME Code, eliminating the need for the EAS boxes to filter out the WAT during retransmission.

NWS reasoning here is similar to that of the FCC retaining the old EBS Attention Signal and putting it after the EAS codes as an alerting signal to the public. Consumer-grade receivers could open a speaker after receiving the appro-

priate county code, and use the received NWS WAT or EAS Attention Signal directly over the speaker as an alerting signal to the user.

Further, some receiver makers currently use the length of the WAT to regulate the length of their receiver's internally-generated alerting signal. With the WAT moved to precede the SAME code (which triggers the receiver on), the two aforementioned functions would not be possible.

Perhaps the best reason to leave the sequence as is, is that undoubtedly there are some consumer receiver manufacturers already working on SAME/EAS receivers. Changing the standard now would be self-defeating.

The NWS does admit that there is a problem with EAS units filtering out the WAT. They are teaming up with the FCC to contact all type-accepted EAS equipment manufacturers. NWS is confident the filtering problem in EAS gear can be corrected, attributing it mostly to manufacturer misconceptions on how the WAT is transmitted.

Federal agencies cooperating?

All of the valuable changes described in this article were the outcome of NWS, FCC, FEMA-sponsored meetings with broadcasters, and these agencies following up on our suggestions and affecting these improvements all within a 90-day period at the end of last year.

On behalf of broadcasters nationwide, my hat is off to these guys in the trenches: Larry Krudwig and Rod Becker of NWS, Frank Lucia and David Sturdivant of the FCC, and Gary Stokes from FEMA, Chicago.

■■■

Gary Timm is chairman of the Wisconsin State Emergency Communications Committee (EAS Committee), is a member of the SBE EAS Committee and FCC EAS National Advisory Committee (NAC), and has worked at WTMJ(AM)-WKTI(FM) since 1973. Reach him by phone at (414) 967-5419.

Talking About EAS

▶ EAS, continued from page 19

there is always the possibility of misspoken or missed messages; and EBS cannot work as part of an automated environment.

McNaught-Watson spoke briefly on the NWS involvement with EAS and some of the policies followed by NWS. With the end of the Cold War, EAS is more likely to be activated for severe atmospheric warnings than for a nuclear attack.

Many weather events, such as winter storms, allow 30-hour warning periods. EAS would be used as more of a "short fuse" event system for tornado warnings, for example. Many of these warnings would be issued and spread out over different areas at different times. Because the EAS receiver has four inputs, McNaught-Watson recommended that stations assign one input to an NWS or NOAA weather radio signal. If NOAA has an EAS box, it can send alerts.

Processing problems

Also of concern was a station's reluctance to air the new digital codes without "prettifying them up" a little. The tones must be "seen" by the transmitter at 80 percent or more. This means a station cannot bury the tones under music, and must bypass the reverb tank used to process some

stations' signals.

The use of compression and limiting was also an issue. When the digital EAS codes hit the compressor, the first bit or two could be lost if the unit ducks too far. By the time the compressor recovers, the message could be well on its way over the air with the preamble portion corrupted. Only more testing at the station level will reveal the optimum settings.

Friedman, of SBE Chapter 60 in Richmond, Va., reported on Virginia's EAS readiness.

He expressed concern at the lack of special codes — beyond those used in Part 11 — approved by the commission for nuclear plant tests. He said plants in his area use the Civil Emergency (CEM) code only.

The code NPE (Nuclear Power Plant Emergency) exists, but is on an unofficial event code list not yet approved by the FCC. Lucia said an updated list was due soon.

In concluding statements, broadcaster Maury Blum had positive thoughts about the EAS process and its expected success. He stressed the need to train all on-air talent, and anyone who will be exposed to the EAS unit, thoroughly.

"EAS will work because we engineers are going to be the ones who make it work," Blum said.

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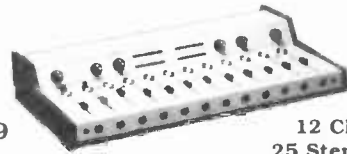
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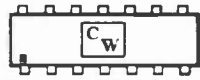


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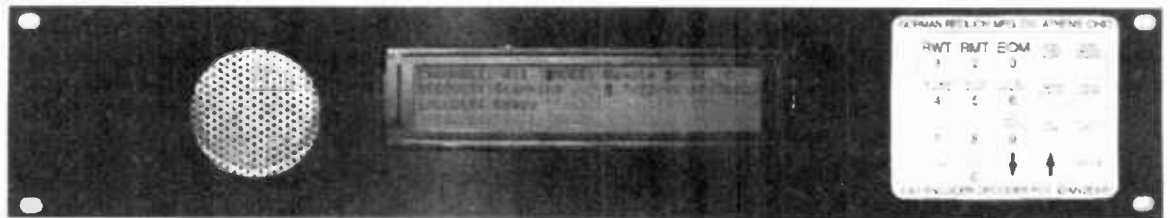
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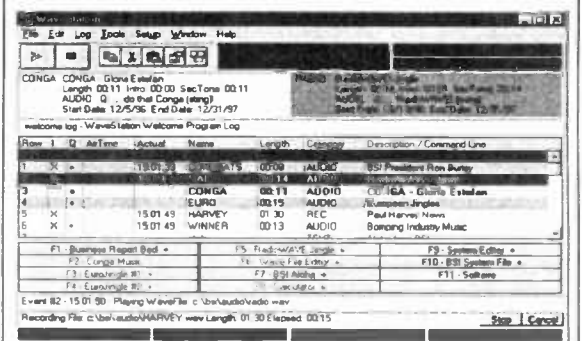
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FEED LINE

AM Antenna Sampling Systems

W.C. Alexander

Part XI

This is the 11th installment in a series about AM antenna systems. The previous article appeared March 19.

First, a clarification. In the previous installment, we presented a method of calibrating thermocouple ammeters using a Variac and a calibrated AC ammeter. A phrase was omitted inadvertently: it would have the meter under test connected directly across the Variac secondary. The correct method is to connect the meter being checked in series with a calibrated AC ammeter across the secondary of a filament transformer fed by a Variac. The Variac is then adjusted to obtain the desired amount of current flowing through the ammeters.

On to our next topic.

At the heart of every directional antenna is a sampling system that provides indication of the relative currents and phases in the elements of the array. The key to a successful sampling system is stability. A stable sampling system will make true changes in array operating parameters evident so that they can be compensated for and the array kept in adjustment.

A sampling system that is not stable will provide false indications of array drift that the engineer will then "chase" with phasor controls, unknowingly cranking the array out of proper adjustment with no clear way back!

A directional antenna sampling system is made up of three elements: a sample loop or sample transformer for each element, an antenna monitor that measures the relative amplitude and phase of each sample, and transmission lines that connect the samples to the antenna monitor.

We'll discuss these elements in this and the next installments of our series.

Sample loops

A sample loop is just what its name implies — a one-turn metallic loop that is permanently attached to the tower. A

typical loop is made of galvanized or stainless steel angle iron. Some loops are made of large-diameter copper tubing, but these are not as durable as steel loops. As a rule, a sample loop must be mounted 10 to 15 feet above the ground, except on tall towers, where the loop is positioned 90 electrical degrees below the top of the tower. If the towers in the

A sample loop is a one-turn metallic loop permanently attached to the tower.

array are all the same height, the sample loops should all be located at the same height above the base insulator.

Sample loops can be either insulated from the tower and kept at ground potential, or operated at tower potential. The latter method is more common.

In such cases, the sample line itself is wound into an isolation coil that presents a high impedance at the carrier frequency to carry the current sample across the base insulator without significantly affecting the impedance of the tower or disturbing the sample itself.

This iso-coil provides a convenient static drain for the tower, and a capacitor can be used across part of the winding to achieve a parallel resonance and "float" the tower for modes where that element is not used (such as non-directional operation).

Sample loops have the advantage of being mounted above the base insulator, on the radiating element itself. As such, they tend to provide a superior sample and give a relatively good indication of the current and phase at the loop location.

The disadvantage is that they are exposed to the elements all the time and subject to deterioration and damage. When the antenna monitor suddenly

shows array parameters at variance, particularly when only one element seems to be affected, check the sample loops first.

Sample transformers consist of a shielded toroidal loop through which a conductor carrying RF current to the tower is passed. Such transformers are essentially the same as those used in toroidal RF ammeters. A given RF voltage is produced per RF ampere flowing through the conductor being sampled, e.g. one or two volts per amp.

Protected from the elements

Sample transformers are typically mounted inside the tuning house or ATU enclosure and as such, have the advantage of being out of the elements.

Such pickups are very stable and sampling systems that employ them seldom exhibit drift. In addition, no iso-coil is needed. The disadvantage of sample transformers is that they sample the current below the base insulator as opposed to the actual radiation current.

The sample taken at that point will include a small component that flows to ground through the base insulator capacitance. In addition, sample transformers become unreliable if the element being driven is more than 130 or so electrical degrees tall.

When ordering a set of sample transformers, keep in mind that the manufacturer can provide a set that is matched as closely as possible.

Voltage output within 1 percent and phase tracking within 0.5 degrees are attainable, and when using sample transformers to set up an array, it is best to be as accurate as possible.

By way of comparison, it is usually easier to set up a new directional antenna using sample loops than using sample transformers. From an operational standpoint, sample transformers are better to work with because of their stability and reliability. Ideally, one would use sample loops to set up an array and sample transformers to monitor it. The expense of using both kinds of sample is too great, however, so this is seldom (if ever) done.

Next month we'll discuss sample lines, antenna monitors and sample system accuracy.

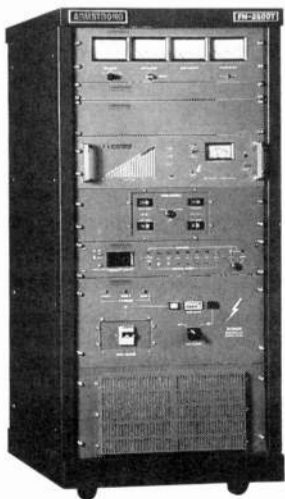
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Cris Alexander is director of engineering for Crawford Broadcasting in Dallas. Contact him at (214) 445-1713 or via e-mail at cbceng@compuserve.com

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Circle (177) On Reader Service Card

Portable, Affordable

► PORTABLES, continued from page 20 those small keys will put off a lot of folks ... unless we come up with smaller people!

An alternative for those who need a portable database and the ability to run modest applications are the Personal Digital Assistants (PDAs). U.S. Robotics introduced the Pilot at COMDEX. Others include Apple, Sharp, Casio and Psion. As with palmtops, the trend is toward lower prices for these little pocket computers.

The Apple and the USR are pen-driven, with no keyboard. You learn to write a sort of "graffiti" language on a touch-sensitive screen; the computer translates it to text. They seem to work well for some folks, and character recognition is improving, but paper still seems faster and easier for drawing pictures and making notes.

One of the most versatile of the keyboard-based PDAs is the Psion Series 3. Until palmtops develop a bit more, it seems to be setting the PDA standard.

Unlike those new palmtops, Psion assumes that you are not trying to reproduce your desk computer in the field. Focusing instead on the key things needed by folks who spend a good part of their day on the road, the Psion's built-in applications include the calendar/scheduler, phone/contact list, calculator, spreadsheet, word processor and world clock/alarm.

A speaker permits you to dial any phone number in the database and record live audio for replay. Via wire connection (infrared in the new Series 3c), information can be exchanged with a host computer. There is even a modem option to send faxes or pick up e-mail.

Psion includes a BASIC-like programming language, as well as a great deal of software available on plug-in cards.

In fact, the Psion caught my eye in part because of its ability to interface with the Lindos Audio Test Package to display and store audio sweeps and test results.

Because of the way Psion packages its system, it has plenty of speed to accomplish its tasks. Sure, the keyboard is a bit small, and I do find myself typing with two fingers, but again, it isn't designed for major, long-form word processing. Rather, the Psion carries, displays and organizes the information you need "right now."

Overall, the key factor in portable computing is to decide whether you need a notebook computer, PDA or scratch pad. Then you can visit the office supply store near you and get completely organized!

■ ■ ■

Reach Barry Mishkind at (520) 296-3797, or via e-mail at barry@broadcast.net. Check out his home page at <http://www.broadcast.net/~barry/>

CEMA Unveils New Web Home

Anyone involved in the consumer electronics industry will find something of interest in CEMACITY, the new Internet website of the Consumer Electronics Manufacturers Association.

CEMA says it has created a more attractive layout, better navigation and several new sources of information at its site, www.cemacity.org. Topics of information include Radio Data Systems (RDS), specialty audio, CES trade shows, testimony from Capitol Hill, FCC filings and more.

CEMA is a sector of the Electronics Industries Association, and represents U.S. makers of audio, video and other electronics.

ROOTS OF RADIO

Cigarette Cards, Crystal Sets

Peter Hunn

We were window-shopping near London's Leicester Square when my 12-year-old son, Eric, wondered aloud if stores sold World Wrestling Federation sports cards in England. I told him most U.K. folks were rather sophisticated and not likely to carry such literature. Just the same, Eric steered me into a nearby, expensive-looking "Antiquarian Book and Document Shop."

Amazingly, the royal-accented proprietor offered a wide variety of WWF items for my youngster to consider. Old Dad waited patiently, prompting the shopkeeper to break the silence with an

satisfy the Postmaster General. (Like mail, radio involved the transmission and reception of communication.)

The "broadcasting partners" hoped to benefit from their BBC endeavor via sales of factory-built sets, or those constructed with "official" parts. Each set owner was required to obtain a 10-shilling license for his/her "factory-authorized" receiver. It was suggested no citizen of the U.K. listen to programming on any equipment not sold by a BBC partner.

The year 1927 saw the private British Broadcasting Company give way to the public British Broadcasting Corporation, which technically ended the implied pro-

hibition of homemade and "orphan" wireless components in Great Britain.

Sunripe and Godfrey Phillips were two English cigarette producers that offered their smokers collector-card hints on the latest wireless technology, circa 1922-27. The latter's "How To Make Your Own

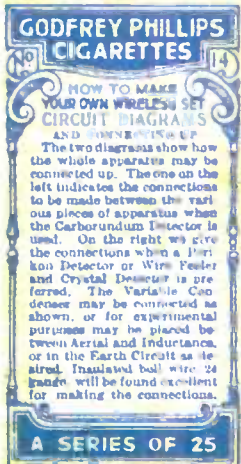
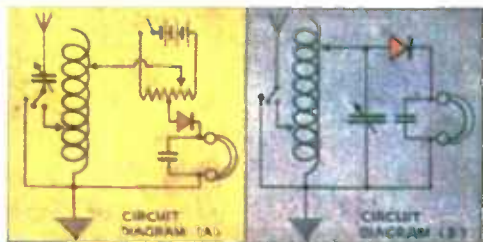


Wireless Set" series pointed out that such an apparatus "may be made from parts SUPPLIED BY WIRELESS DEALERS" (perhaps an acknowledgment to the BBC partners' interests).

While Sunripe's "Marconiphone" and "Crystal" card series often described specific factory-built sets, parts and price, Godfrey Phillips' cards seemed to specialize in actual circuit diagrams and instructions. During broadcasting's first years, both offerings surely served to increase "wireless" listenership, as well as promote radio interest throughout London and beyond.



Peter Hunn teaches broadcast-related classes at the State University of New York in Oswego and SUNY's summer study program in the U.K.



inquiry: "And what might be your area of interest, sir?"

"Um, well ... I like radio."

"Ah, yes. I see," the Britisher intoned, as he looked through his bifocals for some key wording on a neatly arranged row of boxes. "Perhaps you'll find something in

this series quite suitable for your needs."

With that, he skillfully shuffled through the contents of a carton labeled "Vintage Wireless Cigs; various." Now it was Eric who waited, as the proprietor recounted how English tobacco firms

Sunripe and Godfrey Phillips offered their smokers collector-card hints on the latest wireless technology, circa 1922-27.

sparked better sales by offering a huge breadth of subject matter on little paper premiums. I selected a few vintage cigarette cards that featured info from radio's early days.

In May of 1922, the Marconi Company fired up 2LO London, the outlet most historians consider to be Britain's first "broadcasting station." By October of that year, approximately 200 English wireless equipment-related firms contributed resources to found a privately owned British Broadcasting Company. This BBC got 2LO as its flagship, and was licensed by the post office to transmit programs that would reasonably

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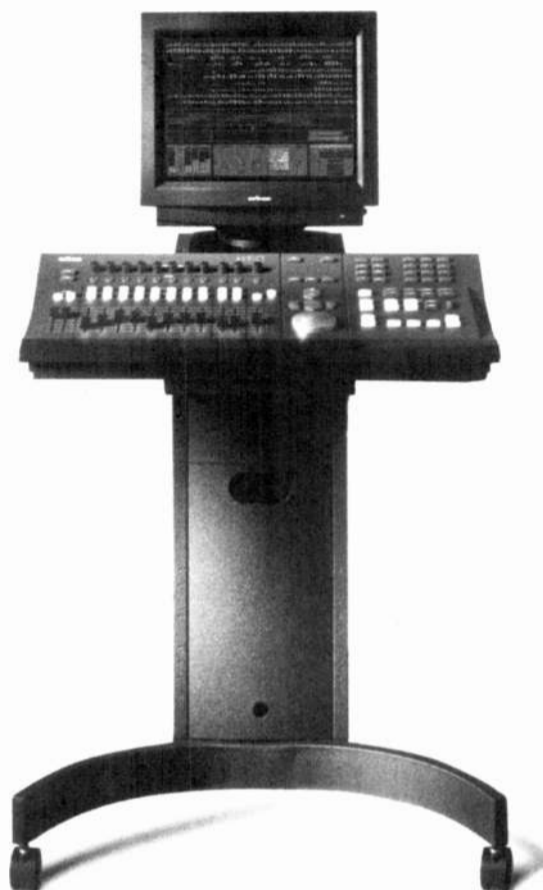
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Circle (225) On Reader Service Card
World Radio History



Radio World, April 16, 1997

The Great 'Sharp Organizer Debate'

John Bisset

And now, what you've all been waiting for: the Sharp Organizer Great Debate!

First, let me thank everyone who called, wrote, faxed, and e-mailed replies. Because *RW* can't provide the space to respond to everyone's comments, a good sampling follows.

Sharp stories

Bill Blinn's "chide mode" message was one of the best: "I have to be rude and ask how an engineer would assume that a consumer-grade electronic pocket organizer would never fail. Sharp offers a cable and software that allows users to back up their data to a computer. I have to suggest that your problem was largely 'operator error'."

Yes, Bill, I admit I should have backed up the data, but the cable and software

are sold by Sharp as an option. If it were really needed, shouldn't it have been sold as part of the package?

Bill has a Wizard (by Sharp) which has served him well for five or six years. He especially likes the RS-232 interface, which can be connected to a modem, turning the Wizard into an ASCII terminal. Tie it into a 2-meter handy-talkie with a TNC connector, and you have a portable Amateur packet station.

Ben Bass (N2YDM) reiterated Bill's remarks in that pocket organizers "should be treated like any other computer. ... It was your failure to back it up that was largely responsible for your dilemma."

I agree, but you know, for some reason I never really thought of that little device as a computer.

There were plenty of dissatisfied customers, too. Michael Edmonds ran into a problem with his Sharp Wizard, and with some assistance from his state attorney

general's office got the problem resolved.

John McWilliams of McWilliams Broadcast Services in Pennsylvania has been pleased with his Radio Shack directory/organizer EC-330. He bought it four years ago and had one experience where the batteries died after not using it for awhile. Thinking he was going to lose everything, John replaced the batteries and the information was still there.

Jay Mitchell found the Sharp support people quite helpful and, although he has experienced a couple of freeze-ups, he backed up his organizer.

Mitchell writes about his latest new-fangled gadget, the Pilot 5000 from U.S. Robotics. It doesn't have a keyboard, but uses a clever, easy-to-learn and highly accurate handwriting language. It is powerful, and effortlessly synchronizes with data from other PIMs.

My friend Mike Callaghan at KIIS-FM on the left coast also likes the Pilot. Though it is pricey, you know it has to work if U.S. Robotics put its name on it. It is available with 100 or 500 kB RAM and comes supplied with a datebook, to-do list organizer, calculator and address book.

In addition, it also allows you to upload a large number of custom and specialized applications ranging from expense organizers to games.

Mike's favorite feature is the way it interfaces to a PC or Mac. The data in the computer can be added to, deleted or modified with the Pilot. Walking down the hall, Mike gets stopped by someone who needs something done. He enters it into the Pilot, it goes into the PC, and comes out on the To-Do list. His only complaints are the lack of a backlight and some minor software foibles.

Good feelings about TI

After plenty of suggestions I perused the selection at one of those office superstores recently. Something I hadn't seen in previous displays caught my eye. Texas Instruments has entered the market with their PS-6960Si. I'm not too sure how new this is, but I've never seen it displayed.

TI offers several memory sizes at corresponding prices. I chose the 256 kB model, and I think I'll be pleased. Here is why: nearly 25 years ago, as I entered college, I invested in a TI Model SR-50 Scientific Calculator. I seem to remember it cost about \$150 — lots of money back then, but it beat the slide rule.

That calculator has seen me through

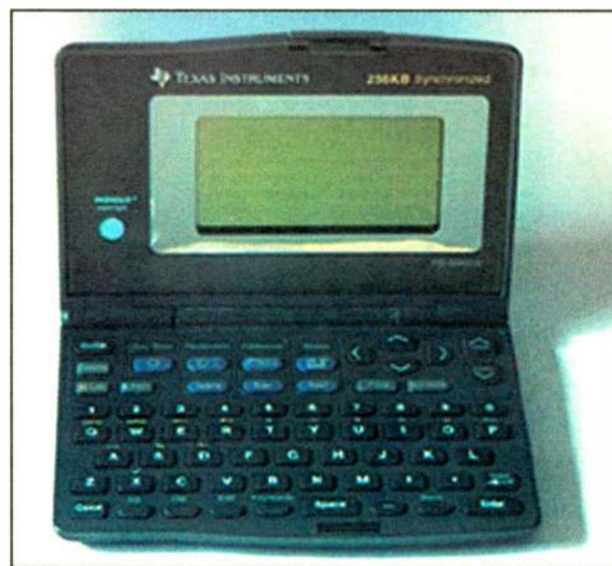


Photo by Alan R. Peterson

John's Texas Instruments PS-6960Si

college and several engineering positions, and though I've had to replace the battery pack several times, along with the charger, it still works and TI still supports it. Talk about customer service!

I thought about my SR-50, then saw that the TI electronic organizer includes the software and computer interface in the price of the organizer. It wasn't an option. My smile grew wider.

The PS-6960Si also features a blue night-light to backlight the display, making it easy to read in the dark. I can't tell you how many times I held my Sharp up by the rearview mirror to catch the headlights behind me so I could see a number.

Perhaps the neatest feature of all is one my Sharp lacked.

Most organizers will search for a full name, but will not search numbers. The PS-6960Si takes the search process a step further. In the Find mode, everything is searched — reminders, address lists, notes, your day scan — until that key word or number is located.

This feature is invaluable. I'm forever getting pages from jocks who don't know how to use a TouchTone phone. The pager will display only part of a number. In other cases, the jock forgets to enter the area code.

If I enter the number sequence in the Find mode, it will give me every entry where that specific sequence is located. Within seconds I know who is calling me and I have a complete number to dial.

Though I'm just getting started, I'm pleased with what I've encountered so far. The computer interface is next. I'll keep you posted.

■ ■ ■

John Bisset is a principal with Multiphase, a technical services company. Reach him at (703) 323-7180. Printed submissions qualify for SBE recertification credit. Fax submissions to (703) 764-0751, or send them via e-mail at WRWBENCH@AOL.COM

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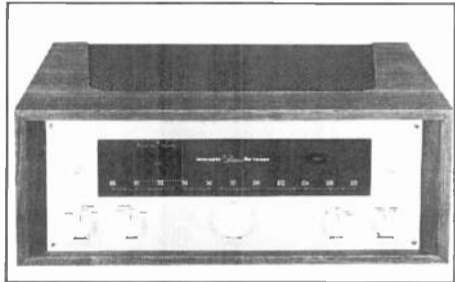
Marantz Was Audio Pioneer

Sharon Rae

Saul B. Marantz, who died earlier this year at 85, gave the audio business one of its most familiar names.

Marantz began his career as a developer of high-fidelity audio equipment at the age of 40. Ed Woodard, chief executive officer of Lineage Corp., who worked with Marantz on several ventures, said Marantz had always wanted to be an engineer, but to make ends meet he started out as a graphics designer.

"He had a successful (graphics) business, but still ... he's fooling around in his



The Model 10B FM Stereo Tuner

basement trying to get a preamp to sound better and he comes up with a couple of interesting circuit ideas and he makes one for himself. His friends love it, and they try to get him to make one for them."

He decided to do a production run of 100 in his basement. This Audio Console Model 1 preamp was just the beginning.

Word quickly got out about Marantz's creations.

"One day a man named Sid Smith, an engineer from Chicago, showed up at his door," said Woodard. "He thought he was coming to visit a factory ... he joined in the venture and that was the start of the Marantz Company."

Simplicity and selflessness

What set Marantz apart from other designers of the day?

"He was a genius in the simplicity of his designs," said Ralph Cervantes, vice president of Marantz America. "The industrial designs are timeless ... if you look at some of his early work, they look as modern today as they did back then. His products didn't look dated."

An ability to surround himself with excellent engineers, such as Sid Smith, Richard Sequerra and Mitch Cotter, was another component to Marantz's success.

"(Marantz) in turn gave them the freedom to do their magic," said Cervantes.

"Saul always felt there was enough credit to go around ... always gave full credit to his engineering team," said Woodard.

Drive for perfection

"Because he was a graphics designer, and an amateur photographer, he was offended by things that didn't look good," said Woodard. "So in the process of his decision to make things look better, he also decided that the preamp should be easier to use ... everything you'd ever want to do you should be able to do from the front panel. He was a master of front-panel design ... you had asymmetry, yet he would manage to have the entire thing visually balanced. A very clever designer."

Marantz founded the company in 1953 and in 1964 sold the company to

Superscope. He stayed on board as president until his retirement in 1968. From there, he co-founded Dahlquist in 1972, serving as president until 1978 and as a consultant thereafter.

As late as November 1996, he formed two new audio businesses, New Lineage Corporation and Eye Q Loudspeakers.

According to Cervantes, it was Marantz's drive for perfection that often led to development of state-of-the-art products that are still considered classics today. But his drive for perfection drove him to sell the company as well.

"When he decided to build the best tuner ever, it required such financial resources that it eventually caused him to sell the company to further finance that

project."

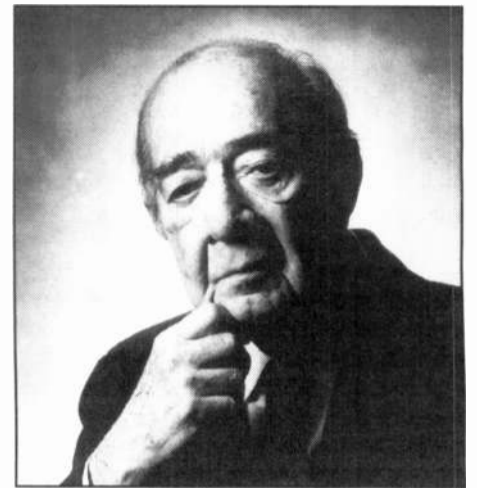
The development of the Model 10B FM stereo tuner was probably Marantz's most famous product — partly because its development required so much money that it consumed the working capital of the company.

"It was the first tuner to have a built-in oscilloscope, which was a big aid to tuning," said Woodard. "It was among the finest equipment of the early 1960s."

Other noted Marantz creations included the Model 7 preamp, and the

Models 8B and 9 power amps.

Marantz was a fellow and charter member of the Audio Engineering Society. He also was vice president and served on the board of the Institute of



Saul B. Marantz

High Fidelity.

"He left a legacy," said Cervantes. "He will forever be known as a leader in true high-quality audio."

Marantz died Jan. 16 of natural causes at Somerset Medical Center in Somerville, N.J.

He is survived by his daughter, June M. Chamberlain of New Jersey, a brother and sister, and three grandchildren.

BOOK REVIEW

Voices in Montana's Big Sky

William A. McGinley

Montana is 147,138 square miles of some of the most forlorn and beautiful landscapes in the world. The task of establishing broadcast services for far-flung listeners here was a daunting one.

C. Howard McDonald has chronicled the growth of the Treasure State's radio and television stations in a 154-page book, "Voices in the Big Sky! The History of Montana Broadcasting." McDonald calls it his treatise.

The author spent nearly all of his professional life working in various Montana stations and thus is well suited to provide a first-hand view of much of the state's broadcast history.

McDonald has personalized the story, and this approach is one of the book's appeals.

In person, he is the archetype of the radio personality: His deep basso voice was the envy of any would-be broadcaster; his love for the business has prevailed for more than 40 years, with stints in announcing, programming, engineering, sales, management and now at his own consulting firm, Big M Broadcast Services, which publishes the book.

This close perspective provides "Voices" with anecdotal stories and tales. They breathe life into what might otherwise be a litany of commercial interests applying for FCC licenses, building stations and doing business.

One of McDonald's chief sources is an unpublished master's thesis written by Ronald P. Richards at the University of Montana. Richards makes it into the book too. When he was a young lad living on Missoula's south side, he and McDonald established and operated an unlicensed radio operation in Richards' recreation room. It lasted until the manager of a local station knocked on the

boys' door, sheriff in tow, seeking the cause of interference to the station's signal. It seems residents of the south side were complaining.

The main cast of characters and most of the state's stations are covered in 23 short chapters. The range of topics is broad, including Remotes and Networks, Programming, Equipment and Engineering, Music Licensing, Broadcaster's Problems, Some Never Made It, Slogans, Montana Call Letter Miscellany, Radio and TV News, and Christian Radio.

McDonald's personal perspective is both an asset and a fault. It may be too personal, and the author freely admits it. The discipline required by historical research, with its ensuing objectivity, have given way to McDonald's fond memories, personal favorites and opinions.

E. B. "Ed" Craney was certainly one of Montana's broadcast pioneers; he established Butte's KGIR in 1929 and then the highly successful Z Bar Network of five stations. McDonald's research uncovered a tape recording made by Craney before his death. The recording has been transcribed and presented in its entirety in a chapter titled There Was a Fellow By The Name of Craney. The transcription is fascinating and provides wonderful insight into the events and forces affecting early Butte broadcasting. It serves to whet the appetite for the personal accounts of F.A. Buttrey, A. J. Mosby, Charles O. Campbell and others who brought radio and television to the plains and mountains of the Treasure State.

A number of stations are mentioned without note of the personalities behind their birth and growth. Two nationally known personalities McDonald lists in his "Broadcasters Hall of Fame"

See VOICES, page 28 ►

Without noble efforts of people like McDonald, the stories of those who nurtured broadcasting in our states will be much harder to recount, if not altogether lost.

HAM RADIO

Amateur Radio Nets That Matter

Al Parker

One of the ways the American Radio Relay League (ARRL) promotes and justifies Amateur Radio is to create the impression that hams save lives. This, of course, is true.

Hams have been instrumental in air and sea rescues, monitoring natural disasters and much more. During the early days of the Bosnian war, the West depended on the reports of Amateur Radio operators for news about atrocities. So much of the early media coverage amounted to close-up views of a ham rig's speaker grill. These first-hand

reports were instrumental in forming world opinion.

This life-saving quality can happen on a world scale or closer to home. One night, a member of our chat group was listening to the repartee when he started feeling pains in his chest. He managed to press the transmit button just in time to alert the group members, who in turn contacted the local emergency agency.

Some folks in the Amateur community devote several hours every day to such good deeds. These are men and women of the Public Service Nets.

Many of these Service Nets are officially sanctioned by the American Radio

Relay League. Bringing these groups under the umbrella of the Amateur Radio Emergency Service (ARES) was a master stroke.

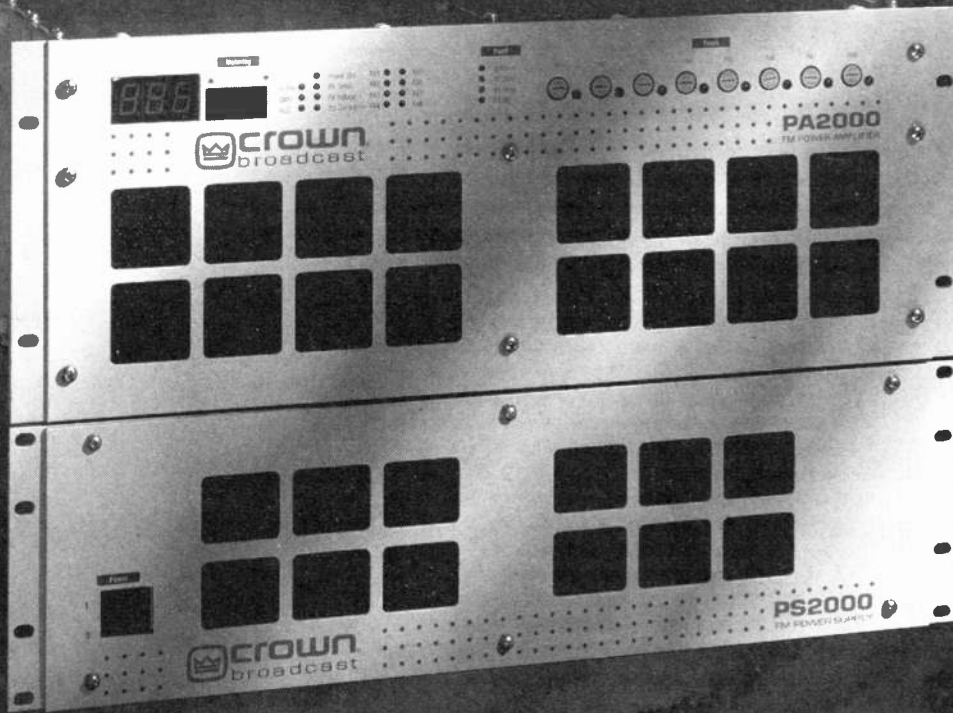
Oklahoma City

Coordinating diverse people and equipment in a common cause is no easy matter. The ARES system is like the antibodies in your bloodstream. When the signal goes out that an emergency exists, they spring to action to fend off disaster.

The most vivid example of this rapid response came as the tragedy in

See HAM, page 30 ▶

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Montana Radio Memories

▶ VOICES, continued from page 27 section merit their own chapters earlier in the book: Chet Huntley, who never worked in Montana broadcasting but hailed from the Treasure State, and Paul Harvey, who stretched his honeymoon in Missoula to include two years at KGVO. Missing is the nationally acclaimed homespun commentator Kim Williams, who was heard for years on National Public Radio through the efforts of KUFM.

Radio is Howard McDonald's "cup of tea," and his affection is evident in "Voices in the Big Sky." The loving care and concern lavished on the story of Montana radio are lacking in his telling of the history of Montana television stations, but he notes the essential details with a selection of stories including a fight for survival between Butte's KXLF and KOPR, Dan Snyder's zany antics on KRTV-TV in Great Falls, and the misfortunes of "Lucky Channel 13" KGVO-TV in Missoula.

McDonald describes Art Mosby's troubled efforts to establish his television operation, including an incident in which an expensive, new traveling wave transmitting antenna was dropped to the ground during installation. I personally recall two such incidents; in fact I was the duty switcher in the KGVO control room on the second of those fateful days, when the two-way radio to the mountain top transmitter site crackled, "Get an ambulance up here quick ... we dropped the damn thing again!"

McDonald's history of Montana broadcasting concludes with a chronology of significant events, tabulations of the state's AM, FM and TV frequencies and call letters, and a handy glossary of terms.

"Voices in the Big Sky" is good reading, particularly if you have your own recollections of early Montana broadcasting.

Without the noble efforts of people like McDonald, the stories and personalities of those who established and nurtured broadcasting in our states and regions will be much harder to recount, if not altogether lost.

Big M publishes "Voices in the Big Sky" in both book and tape form. To order a copy of either, send \$16.95 per copy to P.O. Box 1672, Bozeman, MT 59715.

■ ■ ■

The reviewer describes himself as a son of the northern plains and mountains of Montana. He is station manager of KASU(FM) at Arkansas State University.

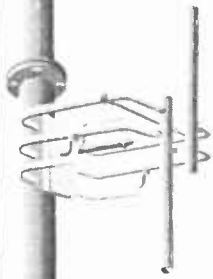
He has served in commercial radio and television operations and news departments, taught broadcasting at the college level, and managed public radio stations in Minnesota, North Dakota and Arkansas.

Reach him via e-mail at wmegingle@kiowa.astate.edu or call (501) 972-3070.

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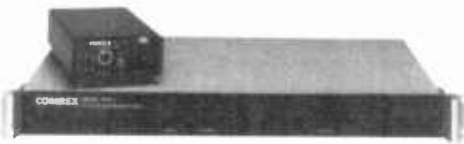
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READER SERVICE NO. 143

Tower Inspection Is Crucial

Troy Conner

Routine tower inspections are absolutely critical in order to maintain a structure's integrity. In my travels about the country, many of the smaller towers I run across have not been truly inspected in years. A proper tower inspection is a task best performed independent of any work being done on the structure. Asking the guy who changes the light bulbs once a year, "Well, how does it look up there?" does not constitute a thorough structural inspection.

The Telecommunications Industry Association and the Electronic Industries Association have together developed the engineering standards to which towers are to be constructed and maintained. The most current revision of this publication, TIA/EIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures," recommends that "major inspections be performed, at a minimum, every three years for guyed towers and every five years for self-supporting towers."

Under what conditions?

The standard further advises that "all structures be inspected after severe wind and/or ice storms or other extreme loading conditions." Additionally, the standard notes, "Shorter inspection intervals should be considered for structures in coastal environments, in corrosive atmospheres, and in areas subject to frequent vandalism."

Obviously, some environments are considerably more hostile than others. It stands to reason that routine inspections are even more critical for structures in these settings.

Personally, being fairly conservative, I recommend annual inspections of all guyed towers, and that self-supporters be inspected every two years. Spring is an excellent time to have an inspection performed. Winter weather can subject a tower to some of the worst conditions it will experience. The logical time for an inspection is as soon as warmer weather permits climbing.

Another good time to conduct an inspection is after any major work on the structure. Have the inspection done by a firm other than the one that did the work. All of us need another perspective, at times; often we cannot see our own mistakes.

Genuine negligence or incompetence is rare, but every company has had a bad employee, and even the finest employee has a bad day now and then. Most worker-caused problems are more likely due to inexperience, lack of supervision or plain old haste. Perhaps three-quarters of the climber-related problems I encounter were caused by rushing to finish a job, for whatever reason, be it impending bad weather, an impatient customer or an antsy boss back at the office.

I also recommend rotating or switching inspecting firms regularly in order to establish a system of checks and balances. Just as you might want a second opinion on a medical question, alternating or using a number of independent tower inspectors is prudent.

Other than those due to negligence and general neglect, most tower problems are environmentally created. Wind, rain, ice and airborne pollutants all take their toll upon a tower, antenna(s) and transmission

line(s). Imagine, if you will, the stresses created by the continual expansion and contraction of the various materials due to temperature change.

Due to the differences in the rates of expansion and contraction, the steel tower and the copper T-Lines move separately. Add to this assault the daily exposure to ultraviolet, which slowly breaks down the polymer insulation of heliax-type lines and any items made with fiberglass.

Just as every tower is unique, so are tower inspectors and their firsthand inspection reports. However, all good tower inspections will cover the same basic information. The only differences between inspection reports prepared by tower companies should be in the format and presentation.

Cost factors

The price of a thorough structural inspection will vary considerably. The cost is usually based on travel distance, the size of the tower and whether the firm doing the inspection is familiar with the structure. Moving around a self-supporter takes more time, so the cost to inspect this kind of structure will normally be higher than that to inspect a guyed tower

of the same height. However, if the guy tensions must be checked, a guyed tower will likely be more expensive.

The minimum you should expect to pay for a good inspection is about \$500. This figure would be appropriate for a small, guyed AM tower with which the inspector is familiar, located reasonably near the inspecting firm's office.

At the other end of the scale is a large self-supporter in dire need of a structural analysis, and lacking drawings. This scenario will probably demand two people to measure and document the structure accurately, and the cost might run as high as \$4,000. A large guyed tower inspection, combined with a plumbing and tensioning, might cost \$6,000. An average inspection should run somewhere from \$1,500 to \$2,500.

Many folks frankly are shocked by the cost of a real tower inspection, perhaps because it doesn't seem to take very long and it doesn't result in any "work" having been done. An inspection is an involved process, requiring considerable knowledge gained only by experience. Ultimately, the longevity of the structure is at stake!

In terms of logistics, a crew can perform a simple tower inspection in a day



or two at the most. The exceptions are the very large self-supporters or guyed towers needing plumbing and tensioning. Aging AM towers, with guy insulators that require inspection, will also take more time and therefore cost more, thanks to the moderately involved rigging required to allow a man to ride and inspect the wires and insulators.

Next time, we'll look at the elements of the inspection more closely.

■ ■ ■

Troy Conner is the owner of Tower Maintenance Specialists. Reach him by phone at (704) 837-3526 or via fax at (704) 837-1015.

These Nets Matter

► HAM, continued from page 28

Oklahoma City unfolded. Only minutes after the explosion, Civil Defense and ARES had established emergency communications. The explosion at the Alfred P. Murrah Federal Building occurred at 9:02 a.m.; by 9:15, the Oklahoma County ARES Net was in action.

Every communications resource was brought to bear, including HF on 3.900 MHz, VHF repeaters on 146.82 and 146.925 MHz, packet communication on 145.07 MHz and public service radio on 151.52 MHz. Ham radio sped the response of medical assistance and other services. In addition to helping the Red Cross and Salvation Army, Amateur operators assisted in triage and coordinating efforts to funnel the injured to the most appropriate aid centers. Health and welfare messages were entered into a nationwide digital network to disseminate information about family members.

Redundant?

With the advent of the cellular telephone, some people contend that the VHF/UHF ham bands are a redundancy in the reporting and monitoring of emergencies. This line of reasoning suggests that any breaking situation can be handled just as effectively through a simple cellular phone.

One of the first side effects of the bombing and the resulting chaos was an overload of landline and cellphone systems. Southwestern Bell had to initiate a "delayed dial tone" strategy to cope. The mass media actually pleaded for the public to refrain from making "frivolous" calls.

During those first crucial hours of impaired phone service, Amateur Radio proved a reliable, alternate life-

line.

Cellphones depend on a relatively vulnerable network of repeaters. These commercial communications links could be targets for terrorists or casualties of natural disasters. Amateur operators also depend on a network of repeaters, but can go simplex in the event of a network breakdown. Range of individual units might be impaired, but when combined with the extended range of HF, the ham network could carry on very nicely.

More than just a picnic

Several times a year, casual listeners to the Amateur bands might think that a plague of alien insects has invaded: All they can hear coming out of the speaker, on virtually every frequency, is "CQ Field Day."

These are not talking locusts coordinating the invasion of local farms. They are hams of every age, sex and background, practicing their skills as field operators. Their goal: to set up and operate a capable, "in-the-rough" station to produce effective radio signals, using their ingenuity. Power sources, antenna supports and the difficulty of operating in the elements are parts of the exercise.

An integral contest provides a real-world method for determining the success of the endeavor. There is a pervasive atmosphere of fun, but behind the adventure and camaraderie is a serious purpose.

Field Day is a kind of basic training for radio communications. When an emergency hits, there is little fumbling or fighting over turf. Ego takes a back seat to the mission.

Most of the maintenance of this

invisible RF safety net is not conducted on Field Days or in ARES/ARRL meetings.

When listening up and down the bands, you may hear some strange groups of people exchanging cryptic messages. These Traffic or Telephone Nets meet every day to exchange seemingly meaningless information. This innocuous daily activity establishes habitual patterns for the group to be on a certain frequency at a certain time.

A small individual commitment of time, multiplied by thousands of participants, adds up to quite a force. If a hurricane, flood or other disaster strikes, this collection of Clark Kents morphs into SuperNet.

The Amateur Radio Spectrum is something we all cherish. A prevailing school of thought suggests that we use it at the whim and pleasure of some government bureaucrat. I believe it's the other way around, that they allocate spectrum at our pleasure. The small slice we reserve for ourselves is the least we should expect and demand.

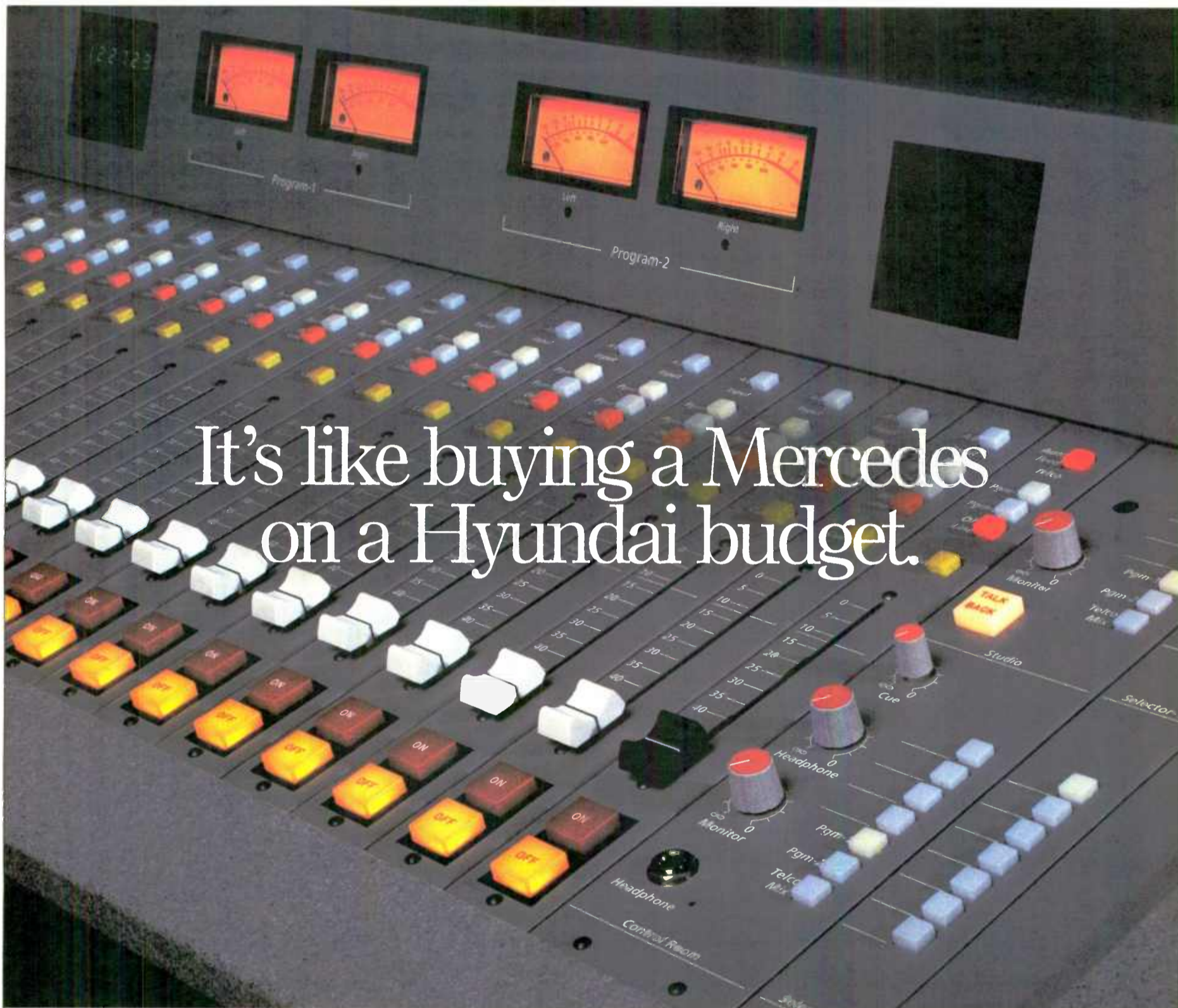
Whatever your thoughts about the peoples' right to use their own spectrum, service to your fellow citizen — and the hobby — is a noble thing. Don't do it out of a sense of fear and duty to some bureaucrat as a means of justifying our use of spectrum. Become involved to expand your own horizons, and because it is the right thing to do.

To get involved, contact your local Amateur Radio club or the ARRL. The Educational Activities Department can put you in contact with your local club and service groups. Write to ARRL, 225 Main St., Newington, CT 06111-1494.

■ ■ ■

Alan Parker, aka N2SAG, writes about ham radio and photography from Hicksville, N.Y. Contact him at (516) 681-6733.





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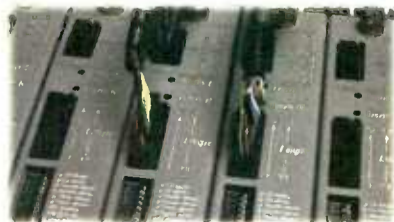
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PACIFIC RESEARCH & ENGINEERING

Circle (58) On Reader Service Card
World Radio History

Newseum Celebrates The First Amendment

Christine Joaquin

Add another item on your "things to do" list the next time you're in Washington.

The Newseum, a multimedia museum, will provide visitors a behind-the-scenes look at how and why news is made. It opens April 18.

The \$50 million, 72,000 square foot interactive museum, located in nearby Rosslyn, Va., is funded and operated by the Freedom Forum, "a non-partisan

informational foundation dedicated to free press, free speech and free spirit."

It houses a state-of-the-art radio and television broadcast studio, where visitors can play reporter or relive the great news stories of all time through multimedia exhibits.

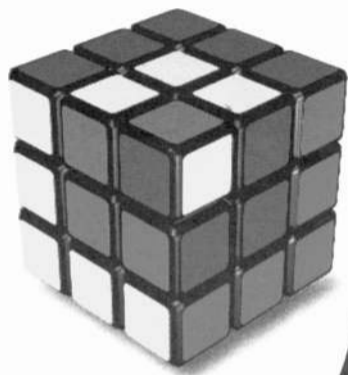
It also includes an always-changing News History Gallery, mini-theaters, the News Byte Cafe, a "cyber news cafe" that offers refreshments and access to the Internet, and ongoing participatory exhibits.



This artist's rendering shows how visitors will experience breaking news on a 126-foot-long video wall.

The News History Gallery houses more than 2,000 artifacts dating from the

1600s to today. Items on display for the inaugural exhibition are Publick Occurrences, the first newspaper published in British North America, dating to 1690, a microphone used by Edward R.



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Photo by Alan R. Peterson

Allen H. Neuharth, Chairman of the Freedom Forum

Murrow to report the bombing of London, and a Gutenberg Bible.

Newseum President and CEO Charles Overby said the gallery will be in a constant state of change because "the news changes every day."

In a press release, Executive Director Peter Prichard, echoed that sentiment. "In part, a visitor's experience at the Newseum will depend on what is happening that day," he said.

A second permanent exhibit focuses on the history of news and communication before the introduction of the printing press in Europe.

Here, articles include Sumerian tablets as old as 2400 B.C. and a statue of Thoth, the Egyptian god of scribes.

Adjoining the Newseum is Freedom Park. It includes a memorial to journalists, a theater, several icons including sections of the Berlin Wall, and a bronze casting of the jail cell door that constrained Martin Luther King Jr. in Birmingham, Ala.

"We want people to leave with a better understanding of the First Amendment," said Allen H. Neuharth, chairman and founder of USA Today.

"By taking visitors behind the scenes, we hope to forge a deeper understanding of the role of news and free press in our lives."

The Newseum and Freedom Park exhibits were designed by Ralph Applebaum Associates of New York City.

The Newseum is located on the first three levels of The Freedom Forum World Center. The toll-free information number is (888) NEWSEUM (or 639-7386). For additional information about the Newseum, visit its website at www.newseum.org

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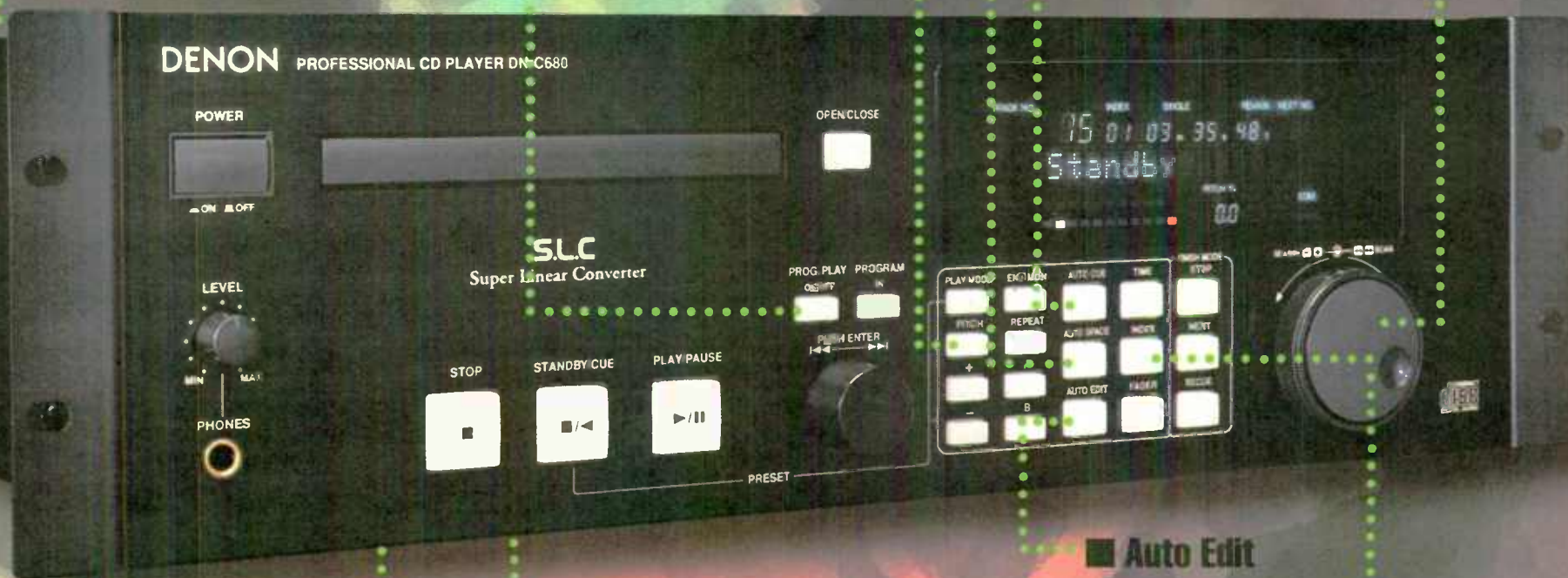
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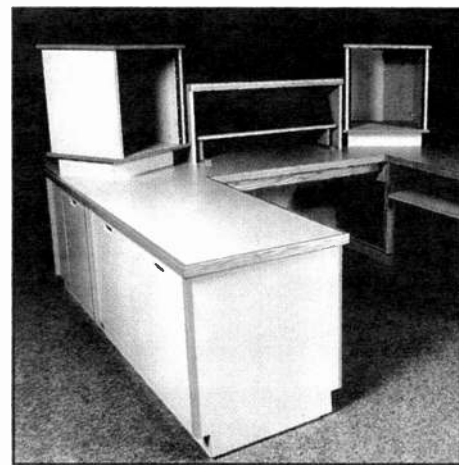
The antennas in the F series line are made of heavy-gauge marine brass and copper for long life and corrosion resistance.

They feature excellent bandwidth and VSWR of 1.1:1 or better at ± 200 kHz from the carrier. Null fill and beam tilt are available options, as is pattern optimization.

For more information from PSI Inc., contact the company in Pennsylvania at (814) 472-5560; fax: (814) 472-5676; or circle **Reader Service 199**.

Ruslang W Series Studio Furniture

Ruslang Corp.'s W Series professional modular studio furniture is designed for



versatility and durability.

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For more information from Ruslang Corp., contact the company in Connecticut at (203) 384-1266; fax: (203) 384-1267; or circle **Reader Service 223**.

Running Radio



Summer Promotions Page 38.

Radio World

Resource for Business, Programming & Sales

April 16, 1997

STATION SNAPSHOT

Floods Can't Keep Him Down

Gary Hart

Elmo Donze has been swimming upstream for three-and-a-half years.

First, the owner of KSGM(AM) in the Missouri town of McBride fought the Great Flood of '93, and lost. On July 25, 1993, the Mississippi River burst the levee near McBride. Donze stayed on the air as long as he could.

"The family had evacuated (from a nearby mobile home) but they said 'You're welcome to use the phone!' I did reports on KSGM until water came down Main Street, then I jumped out the back and scurried up the levee."

Half an hour later, water rose over the sandbag dam protecting KSGM's transmitter and the station went dark.

A flood remakes the landscape — uprooting trees, sweeping away buildings, and dumping mud by the ton. After the flood, the regulatory landscape also complicated his efforts to get back on the air. The station would remain off for almost four years. Donze signed KSGM back on in February of this year, just days before a federal deadline threatened to sink the station his father built.

Station without a home

KSGM is licensed to Chester, Ill. The town sits on bluffs high above the Mississippi River floodplain. Listeners could look down from Chester onto the transmitter site.

Donze said the transmitter was moved to "the bottoms" in the 1950s to take advantage of floodplain physics that would benefit his AM propagation. Unfortunately, floodplains are also great for flooding, a fact the federal government has recognized in its policies.

Donze said, "The bottom lands were declared wetlands. The Federal Emergency Management Agency ordered you could only rebuild in a mobile home ... and that mobile home had to be elevated (about 40 feet) out of the floodplain." Donze said they would have had to unplug the transmitter and haul out the mobile home if another flood threatened.

Donze described obstacles everywhere.

"We couldn't move across the river to Illinois, due to station interference rules. We couldn't move in another direction" because the tower would have interfered with unbuilt runways at an airport in Perryville, Mo.

The only place KSGM could fit was on the bluffs on the Missouri side, where geology made things difficult.

"Limestone was so close to the surface it was actually shooting out of the soil. It was impossible to locate a ground system there," he said. After several years, Donze settled on the site of an old drive-in his father once owned. "We can see

half the state of Illinois from up here!"

KSGM's situation became desperate in the spring of 1996. The federal government mandated that all dark AM stations



Elmo Donze celebrates in front of his tower.

resume broadcasting by Feb. 9, 1997, or they would forfeit their license to operate.

The winter of 1996-97 was as constructive and exhausting as the summer of 1993 was destructive and exhausting. Engineers broke frost-hardened soil to install the ground system. As the 241-foot tower went up, the temperature went down to the single digits. By the end of January, Donze said, the weather was warmer, but just as uncooperative. "The dirt road to the tower and transmitter was almost impassable," he said.

"I've built two FM stations, and now this AM," Donze said. "I'd build 10 FMs before I ever build an AM again, especially in the winter."

He has high praise for the workers and equipment suppliers who braved the cold

and mud.

On Feb. 5, 1997, the new Broadcast Electronics transmitter came to life and KSGM was on the air at 980 kHz.

Red ink

So far, the new KSGM is broadcasting at 1 kW during the daytime. The only programming to be heard are news and sportscasts simulcast from Donze's KBDZ(FM) just up the road in Perryville.

So why go to all that trouble to resurrect an AM station?

"My father built that station. We're all sentimentally attached to it, and we think AM has a future. There is some hope for the AM band if the FCC

approves some sort of digital broadcasting which will allow us to compete with FM. We also felt [980] is an awful good dial position."

The local, Donze-owned newspaper announced KSGM's return to the air with a bright red banner headline. The headline isn't the first red ink the station generated, and it won't be the last.

Donze said the business didn't have flood insurance, and the insurance it did have didn't cover the damage. He said he lost \$250,000 a year while KSGM was off the air. Legal and licensing fees ate up another \$30,000.

"We had to pay interest on the \$200,000 debt that existed on KSGM. We were not allowed to write off our losses. All we could do was accelerate our depreciation."

Donze said he is financing KSGM's restoration almost entirely out of his own pocket. "The first couple years the station

See KSGM, page 36 ▶

Sports Radio Scores

Lynn Meadows

Anyone who remembers smuggling a transistor radio into bed at night and holding his breath lest it overpower the crackling narration of the Yankees baseball game knows sports radio ain't what it used to be.

These days, sports radio is about entertainment, personalities and marketing. Even those who prefer their sports talk or play-by-play without the extra sauce, lettuce and cheese dished out by hot, young sports guns have to agree that play-by-play sound quality, at least, is remarkably better.

One of the biggest lessons learned in

the decade since WFAN(AM) in New York became the first all-sports station in the country is that sports radio must, first and foremost, entertain.

Lorna Gladstone, operations manager at WMAQ(AM), Chicago and a sports station consultant for many years, said "The Fan" format started out with straight, hard-core sports. Like their colleagues at sports stations and sports networks that have followed, WFAN managers quickly learned that the audience grows much more rapidly if the format is driven by personalities rather than sports, she said.

"It's male-oriented entertainment wrapped up in sports," Gladstone would tell sports talent she hired.

William Poole, general manager of WFLS-FM, Fredericksburg, Va., has noticed a difference. More than 30 years ago, WFLS started airing NASCAR races. Today, said Poole, the races have become more of an "event," and the broadcasts are more professional. Personality is key. NASCAR announcers even interview the drivers' spouses.

One major change in sports broadcasting, said Jeff Dorf, general manager of Prime Sports Radio, is that five to 10 years ago, few industry people believed a station could make money with all sports. Those that did thought it might work only in the top five or six markets. Today, the niche format is flourishing in many markets of different sizes (see related story, page 8).

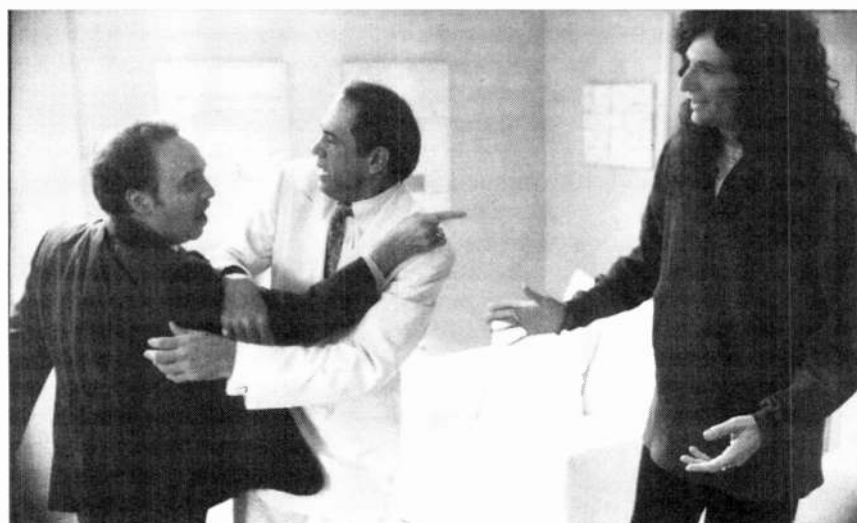
Selling sports

Like sports itself, sports radio is about marketing.

"It has become a focus area that stations can use as a positive revenue generator," said John Lynch, sales representative for Broadcast Supply Worldwide and

See SPORTS, page 42 ▶

Private Parts



Howard Stern, right, angers NBC's Kenny Rushton (Paul Giamatti, left) in a scene from the movie "Private Parts." Radio insiders found a lot to like in Stern's film. See pages 40-41.

SIGNAL-TO-NOISE

Stations Expand Ear Time Programming

Frank Beacham

As we get busier and the pace of daily life quickens, there's increasingly more available "ear time" than "eye time." It becomes much easier to listen to audio programs as we scurry around than it is to sit and watch video entertainment.

This bodes well for all forms of audio programming, whether it be over-the-air radio, direct-to-ear satellite radio, listen-on-demand streaming audio or traditional packaged media such as CDs and cassettes played in the car or through a portable Walkman.

With the expansion of "ear time" come program genres beyond the music and talk that have so long dominated the American airwaves. The marketplace popularity of one alternative audio category — books on tape — is now re-establishing a link that dates back to the earliest days of broadcasting: radio and the written word.

This winter, a Barnes and Noble store in Mobile, Ala. began piping WHIL-FM's weekly radio broadcast of "Breakfast at Random House" into their in-store cafe on Saturday mornings. Following the program, book lovers in the cafe formed their own discussion group to continue the spirited debate begun by the literary figures just heard over the air.

Firing the imagination

The lively discussion in that bookstore and at dozens of other locations throughout the United States constitute a '90s version of the century-old bond between radio and books. They validated once again that a good story well told is

among the most powerful of human attractions. They also demonstrated that radio still holds a unique ability among electronic media to fire the human imagination.

"The radio audience is responding very well," said Random House president and publisher Harold Evans, who presides over the recorded breakfast gathering of literary luminaries at Barneys in New York City. "There's a kind of eavesdropping element at work. You are hearing these literary figures argue and talk in a fascinating manner."



Gay Talese, Louis Begley, Shelby Foote, Fran Lebowitz, Harold Evans (standing), and David Brown participate in the Random House Literary Breakfast discussion of *The Writing of John O'Hara*

What's perhaps surprising to some about "Breakfast at Random House" is that the free-for-all discussions among such authors as Gay Talese, Kurt Vonnegut, Mickey Spillane and E. L. Doctorow are not at all high brow and stuffy, but accessible, entertaining, provocative and often funny. It turns out that few of this generation's best writers and critics are academic stuffed shirts.

These encounters resemble another famed New York literary meal from the 1920s.

As a result of this positive audience response, some of the 150 stations carrying the show are using books related to the program's topics for local promotions. In Saginaw, Mich., for example, WUCX-FM made arrangements with Media Play, a local book and record store, to cross-promote the program by staging a contest in which the participants visit the store to register. In Mobile, Barnes & Noble offers a 30-percent discount on books that are featured in the radio programs and have been provided with a list so they can be sure to have them in stock.

Cross promotion

Charles Smoke, program director at WHIL-FM, a public station with an arts-oriented format, sees the cross promotion with Barnes and Noble as a natural fit. "Whenever we do book reviews or interview authors on our station, we always get a lively response," Smoke said. "I've gotten a really good sense that our listeners are interested in books."

It's inescapable that these regular breakfast encounters (recorded by New York City's WNYC-FM) closely resemble another famed New York literary meal from the 1920s. That one, now the stuff of legend, was assembled around a big wooden table in the dining room at the Algonquin Hotel and included the likes of Harpo Marx, George S. Kaufman, Dorothy Parker and Robert Benchley.



Random House President Harold Evans

This newly rediscovered partnership between books and radio has great potential for expansion, said Evans, who was

editor of the London Times before his tenure at Random House. One new Random House venture is with the British Broadcasting Corp. (BBC) to release in the United States a series of audio dramas based on classic works of literature.

"These are cassettes of the classics ... Shakespeare, the Bible ... with great stars," he said. The first in the series of Modern Library "audiobooks" is William Shakespeare's *Macbeth*, *King Lear* and *Othello* with a cast that includes Paul Scofield, Nicol Williamson and Alec Guinness.

Perhaps, mused Evans, such works could return to American radio, much as classic works of literature and radio drama did in the early years of the broadcast medium. One idea that interested Evans is to use excerpts of spoken word stories and audio dramatizations on radio to promote books in the same way that music videos are used on MTV to promote music. There could even be an audio stories format. "We're thinking about it," he said.

Frank Beacham is a New York-based writer and producer. Visit his website at: <http://www.beacham.com>. Mail: 163 Amsterdam Ave. #361, New York, NY 10023. E-mail: frank@beacham.com

Mississippi Comeback

► KSGM, continued from page 35
was on the air, it operated in the red, so I don't see why it shouldn't operate in the red a for a couple of years the second time it goes on the air."

The old KSGM format was what he called "Country/News-Talk," with an emphasis on farm news, lengthy local news and sportscasts. When KSGM disappeared beneath the wave, Donze switched Adult Contemporary KBDZ to Hot Country. He also added more news as he attempted to keep the advertisers and audiences of both stations. The fit wasn't perfect. "We expanded our newscasts and sportscasts on KBDZ. But obviously, you're working in some time constraints. Instead of 15-minute newscasts, we went down to a 4-minute newscast.

"When we went country, we lost some very good FM customers, and we couldn't convert all our AM advertising over onto the FM side."

Full service

Donze said three jobs, two full-time and one part-time, were eliminated after the flood. His workforce had been around 10. Other employees were moved to Donze Communications operations in Chester, Ill., and Perryville and Saint Genevieve, Mo. News Director Craig Michaels and a part-time sports reporter work out of KSGM's Chester studios.

At the moment, Donze is waiting for the last pieces of the transmission chain to be installed. A second tower and a power boost are in the works. Once custom-built phasors are in place, KSGM will resume

broadcasting with its original, directional signal. Donze said listeners should expect a "24-hour, full-service radio station with a format that



Donze stands with his new Broadcast Electronics transmitter.

will reflect its past."

Ed Crow, the head of the local economic development group, said, "You're always glad to have a local AM station back on the air."

"We'll complete the project sometime in August," Donze said. "It'd be nice if we could complete it by KSGM's 50th anniversary, July 5." Or perhaps July 25, four years to the day after the Great Flood of 1993.

Gary Hart is a freelance writer based in Murphysboro, Ill. Reach him through RW.

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READER SERVICE NO. 141

PROMO POWER

The Undy 500 and Other Promos

Mark Lapidus

Radio is a wonderful medium because of its immediacy. It never ceases to amaze me that a promotion director can dream up a concept at 9 a.m., and put it on the air 10 minutes later. It's virtually impossible to do that in television or print without a team of people and enormous resources.

As with most strengths, however, this immediacy factor has a weak side. Because radio people know they can accomplish a lot quickly, most do not plan as well as they know they should. If



Listeners are busy in summertime. You have to get their attention.

my high horse and preaching about annual promotion planning. But it's true! If you plan annually, your events, contests and activities will all be more successful and your sales department will finally get the lead time they require to sell your promotional babies.

That being said, I offer up a quick list of summer promotion classics, which I hope you'll do this summer and then plan to do again next summer!

Cinco de Mayo

"Pesos Please": It's Mexican Independence Day. Most people only know that it has something to do with the number five. Give away enormous sums of pesos whenever a DJ says the word "five." A thousand pesos is currently around \$126. The day is also a tremendous excuse to sell one more bar party.

Mother's Day

"Throw Mama on a Train": Have listeners listen to win or register at a retailer to win a train ride for Mom to anywhere in the United States on her special day. Travel agencies are a good sponsor target.

"Mom the DJ": This is one of my favorites. Have your DJs' mothers do their air shifts all day. Be sure to notify the television stations. Don't vary your play list. Having them play the music is the best part. Let Mom take phone calls from listeners. They will shower her with affection and tell her stories about her DJ son or daughter.

"Breakfast in Bed": Good morning



Photo by Heather K. Nicholson

show bit. Have listeners fax in Mom's name. The morning jock drops by her house with a famous local chef to prepare breakfast in bed.

"Free Plants": For rock stations, every time you play either Robert Plant or Led Zeppelin, the 10th caller wins Mom a free plant.

Memorial Day

"The Undy 500": Yes, this does involve having grown people show off their underwear in public! To benefit a good cause, your crazy listeners are going to gather at the local track for a tricycle race in their undies. Advance registration takes place at a retailer. The \$10 registration fee should go entirely toward a children's charity. Have the retailer provide a decent grand prize or put up some substantial cash. Just as in the Indy 500, your winner is the one with the best time. Do it in heats, so that the race can stretch out for a few hours. After all, you want plenty of time for the television cameras to show up. In fact, you may want to print up boxer shorts with your call letters. Do you think Fruit of the Loom might want to be the corporate sponsor?

"The Memorial Day Rat Race": Not nearly as scenic, but much easier to execute. Build a track. Get a few mice. Sell it to a pet store, a bar or auto parts store. Be prepared for animal rights protesters.

"The Top 500 Countdown": Three weeks prior, solicit a list of 10 favorite songs from listeners. You can do this via postcard or in-store registration. Play back the Top 500 songs from Friday through Monday. You may wish to repeat the Top 100 or Top 50 on Monday night if it ends really early in the day. Provide a unique twist by having the entire countdown printed on Thursday and Friday in the newspaper.

Tell people that you've made a few intentional mistakes. By listening to the countdown, they'll discover the errors and win big prizes. You may also wish simply to call out names of people who voted on their favorite songs. Give them a few minutes to call and claim a prize.

Prom Night (May/June)

"Pig Out at the Prom": Throw an after-party prom pig-out at a local restaurant or

on the beach. If you want to grab community points, make this the area's No Alcohol Party. Dance music until the wee hours of the night is the key. Brave morning men have also done "Take a Pig to the Prom," where they invite the uninvited for a limo ride, dinner and dance at the prom.

Father's Day

"Father's Day 500": You did it with tricycles, why not with riding lawnmowers?

"Dad the DJ": You guessed it. Mom had her turn; now it's Dad's revenge.

"Father's Day Fetch": The dad with the quickest dog to retrieve an item (newspaper, shoes, umbrella) wins. This is a cool one to play in a big furniture store. A La-Z-Boy makes a great prize.

Fourth of July

"July Four Play": Play four songs from a specific artist each hour all weekend.

"Free Ice Cream Fourth": Another station probably already does fireworks in your

market. Why not take advantage of the after-crowd with free ice cream? Either lease the local fleet of ice cream trucks, or put together your own rental fleet, scooping out red, white and blue cones.

Labor Day

"Last Chance Dance": This is the last big blow-out of the summer. Make it as big as you like.

Various

"The Fatboy 500": Invite heavy (okay, fat) people to a 500-yard race. An all-you-can eat buffet lines the way to the finish line. Most weight gained wins.

"Canine 10K": It's a 10K race that is run with a dog to benefit an animal shelter.

"Sundae in the Park": One entry price gets listeners all they can eat. Proceeds benefit charity.

"Grand in the Sand": Bury 1,000 Susan B. Anthony \$1 coins at a popular beach without telling anyone.

The next day, have someone find a few coins and then leak it to the press. You explain that this is the kick-off of your next big cash contest...

"To The Moon, Alice!": Will you be ready? July 20, 1999 marks the 30th anniversary of the moon landing.

Plan now

Now that I've made summer easy for you, there's plenty of time to do that annual planning referred to earlier. Remember: A missed opportunity rarely returns (until next year).

■■■

Mark Lapidus is president of Lapidus Media. For marketing and programming consultation, call (703) 383-1805 or send e-mail to lapidus@erols.com

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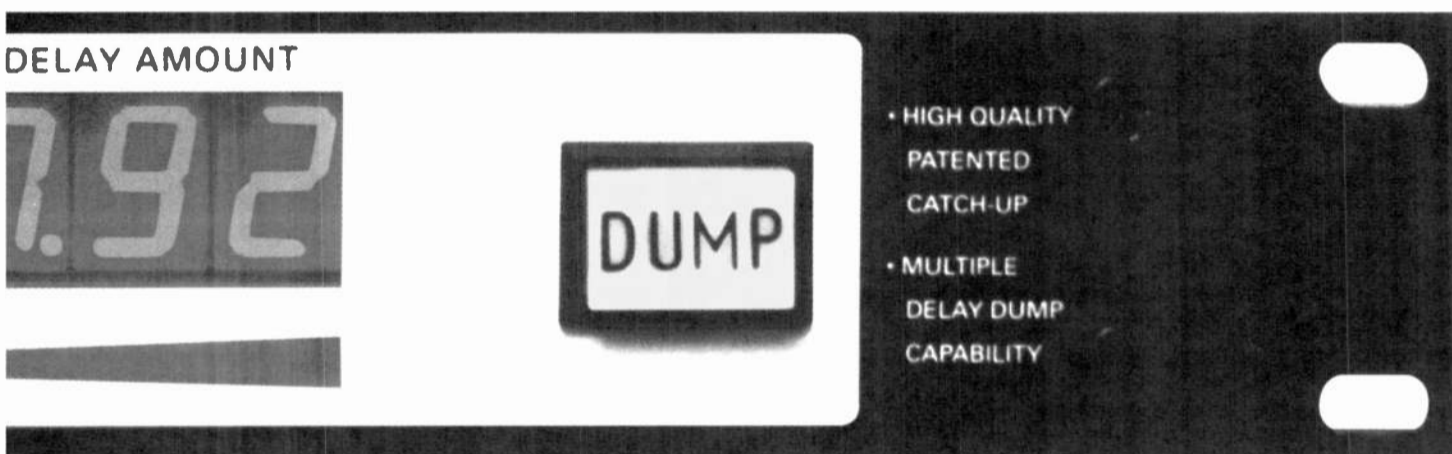
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World Radio History

Stations Roll Out for Howard

Alan Haber

Refuse to call Howard Stern the King of All Media. Agree to disagree about whether he's funny or society's number one bad boy. Agree, at least, to call him the King of Transportation.

Or, more accurately, the King of *Movie Promotion* Transportation. A mélange of vehicles and radio station people met at Planet Hollywood in the nation's capital on a cold late-winter morning to spread promotional cheer for Stern's heavily-touted movie "Private Parts," to be released a few days later.

The radio people involved clearly had a good time. They came from Stern

affiliate stations in cities across the country: KLSX(FM) in Los Angeles, KJFK(FM) in Austin, Texas, WBZX(FM) in Columbus, Ohio.

At around 7:30 a.m., with nary a passerby in sight, the hometown WJFK-FM bus turned left at 11th Street in Washington, with the KLSX bus behind it. Four cars back, KJFK's vehicle, sporting a white delivery truck motif, followed.

The three vehicles parked across the



street from Planet Hollywood. In rapid order, WBZX's black Hummer and vehicles from other radio stations joined. Art Mann, from cable's E! channel, who fol-

lowed the Stern caravan from Los Angeles, looked tired but seemed to be having a ball.

The colorful KLSX and WJFK buses, emblazoned with "Private Parts" movie posters and other Sternabilia touches, stood out among the station vehicles. On the WJFK bus, a clip from the film played to a cheering, packed audience of radio station people and reporters. A camera person from Fox television affiliate WTTG nestled in the rear to capture the excitement.

The buses and other vehicles in the caravan practically screamed "Private Parts," which was, of course, the point. As the screaming continued, vehicles from other Stern affiliates rolled up: first a purple ground support crew army truck from WKLQ(FM) in Grand Rapids, Mich., then a red GMC Safari truck from WCCC-FM in Hartford, Conn.

The presence of the WCCC truck seemed especially appropriate. Stern did his first morning DJ work there, from 1978 to 1980. WCCC was also the early radio home of Stern's sidekick Fred Norris.

The buses and other vehicles in the caravan practically screamed 'Private Parts,' which was, of course, the point.

An uplink was set in place by WJFK just in case Stern wanted to check in with the caravan (he didn't). Steve Goldstein, the station's account executive, videotaped the action furiously for future client presentations.

A passerby wondered if Stern would appear this morning. He was told that Stern was on the air in New York City. The man looked disappointed and moved on.

But the radio people present seemed thrilled to be part of the caravan. WBZX's 8 p.m.-to-midnight man Mark Blazor said of his listeners back in Ohio, "Columbus is going crazy for Howard. Howard's only been on the radio station with us since January 2, but the buzz obviously is huge. He's a nationwide success." A couple of the station's listeners planned to fly in to the "Private Parts" premiere in New York City.

The excitement for Stern's movie was high in Hartford, according to WCCC's Marketing and Promotions Director Ron Dresner. "We have people knocking down the doors to see the clip," he said. The station's phones were "lit up for weeks and weeks just to win the movie premiere tickets."

Private Parts, public promotions

Brian Billeck, marketing director at KJFK, said the station's "Private Parts" promotion was successful. "We've had such a huge response, it's unreal," he said. "We've only been on Howard since April of last year, so we're not even into a full year yet, and the response for Howard has been phenomenal."

Mark Flores from Covina, Calif., one of the listeners accompanying the caravan to New York City, won the right to motor to the "Private Parts" premiere

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MOVIE REVIEW

Stern's Bio Pic Is Boffo

Alan Haber

Howard Stern's first celluloid lensing is decidedly more than the sum of the parts that comprise its fiercely popular source material, the book "Private Parts." His silver screen debut is a sweet surprise that does what many other Tinseltown blockbusters fail to do: consistently entertain.

This funny movie takes most of its cues from Stern's relationship with his wife Alison (played by the captivating Mary McCormack) and his battles with radio station executives. Although it certainly contains references to what some consider Stern's tasteless on-air banter, the movie focuses mostly on Stern the man.

And this is a man with one heck of a dream, one not fully realized until he allowed himself to be brutally honest with his listeners. Not the world's greatest DJ, the shock jock didn't truly come into being until Stern began talking on the air about his life in all its naked glory.

I could see where some people might feel that "Private Parts" whitewashes Stern's on-air personality. But it seemed appropriate, somewhat refreshing, to travel with the King of All Media on his

journey to the top. I liked discovering that Stern is — surprise! — a regular guy.

Well, okay. A regular, complicated kind of guy — a driven radio person who won't sit still for lectures from management determined to keep him on their idea of the straight and narrow.

In addition to being a funny, highly entertaining movie for the mass audience, "Private Parts" is a great radio movie — required viewing for airwave novices and veterans alike. The radio scenes are among the funniest in the film. A scene reminiscent of "The King and I," in which Stern's program director at WNBC(AM) New York teaches him to

deliver the call letters as "W-NNNN-BC," is especially hilarious.

Although actors portray various people populating Stern's life, the members of his radio family play themselves.

Fred Norris, who has worked with Stern since his Hartford, Conn. days at WCCC-FM, stands out with a funny performance.

Produced by Ivan "Ghostbusters" Reitman and directed by former Hill Street Blues star Betty Thomas, "Private Parts" is an honest-to-goodness success.

If you've steered clear of Stern before, steer clear no more. Pay the eight bucks already and spend some time in these "Parts."



Supporters Roll Out For Stern

► STERN, continued from page 40

with KLSX after reviewing a six-minute clip from the movie. Flores was animated about the chance to see his hero on the silver screen.

His review? "I said not only was the movie supreme, fantastic and superb, it was my reason for living, that 'Citizen Kane' sucked, 'Gone With the Wind' was crap." He followed this with a graphic joke involving O.J. Simpson.

At around 9 a.m., the caravan was ready to leave. The radio people and listeners had a nice breakfast inside Planet Hollywood (well, bagels and watermelon were spotted). WJFK's promotions manager Tammy Sacks said the event was "absolutely successful ... It's just a great thing to be in D.C. with all the other vehicles, and, of course, we're leading the caravan. So on to the premiere we go!"

The event was important to WJFK, one of the original Stern affiliates. "We love having Howard on the station," Sacks said.

The man driving the WJFK bus might have begged to differ. Could he, rather than Stern, be the *real* King of Movie Promotion Transportation? Wearing a long black wig, he seemed on top of the world, leading the Stern caravan to the Big Apple. He was proud of his Stern-esque locks. "Oh, yeah," he said, laughing. "I'm going to keep it. This is mine."



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Sports on the Radio

► SPORTS, continued from page 35
a 25-year sportscasting veteran. Lynch does broadcasts of the Seattle Seadogs soccer games on all-sports KJR(AM) Seattle.

Dorf said stations can offer an "endless myriad" of features that advertisers can sponsor. Also, he said, "sports is still an emotional buy." Advertisers want to be associated with particular sports. An advertiser who is a big basketball fan will be willing to pay to sponsor basketball in his market.

Chances are, the investment will pay off. Motor Racing Network, which airs NASCAR races, sent literature to stations boasting a 71-percent listener loyalty to

the brands advertised in stock-car racing. That explains why WFLS-FM, which had trouble finding sponsors for NASCAR 30 years ago, now re-signs familiar sponsors every year.

Listeners are certainly loyal. Unlike a music listener, who can change the dial if their station goes off the air, a play-by-play listener has nowhere else to go. Even years ago, said Poole, if the phone line failed during a NASCAR broadcast, the station immediately heard from angry listeners. He knew people outside the WFLS-FM coverage area who drove miles on race day just to pick up the signal.

A big leap forward for sports broadcasting has been in transmission quality.



Prime Sports' Ken Silverstein, Mike Evans, Ron Pell, Bob Golic, Mike Coover and Tim Parker broadcast live from Super Bowl XXXI in New Orleans.

Today, NASCAR races come to WFLS-FM via satellite. ISDN and POTS codecs provide stations a chance to offer a "major-league sound on one dial-up phone line," said Lynch. State-of-the-art codecs are making both set-up and quality sound much easier.

"You have a real listener fatigue factor if you are only using a phone line or cell phone," said Lynch.

"If it sounds like this phone call, they're going to go away." The exception, said Lynch, is the dyed-in-the-wool sports fan, who will put up with anything. Others who are just scanning the dial, however, must be wooed with a top-notch sound.

The new POTS codecs, which let a radio station send a digital audio feed



over "plain old telco" lines, are not cheap; they cost \$3,000-\$4,000 each, and you need one on each end of the phone line.

But smaller stations cannot just get by with an inferior sound, Lynch suggested. If their local audience can receive the signal of a major-market competitor, said Lynch, they will want the same sound quality from the local station.

The new technology is a boon for non-technical types who want no muss, no fuss on game day. Lynch told of his worst equipment experience. Several years ago, he arrived at Chicago Stadium to broadcast a soccer game, with one large rolling case and a smaller, attaché-sized case in tow. He was told he would be broadcasting from a cage suspended from the ceiling of the huge indoor arena, and there were no elevators.

It took 15 minutes to roll his equipment to the bird's-eye view of the stadium, and another 15 minutes to catch his breath, he joked. An hour later, he was ready for the broadcast. Today, he said, he travels with only a few small boxes. Set-up time is about 5 minutes.

Play-by-play

How has the proliferation of all-sports stations affected those that do occasional play-by-play? Gladstone, who has helped WMAQ acquire rights to Bears and Hawks games, sees no consistent pattern. The jury was divided on whether the amount of play-by-play broadcasts on the radio has diminished.

Dorf of Prime Sports thinks there is
See SPORTS, page 43 ►

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► SPORTS, continued from page 42

marginally less play-by-play on the radio these days. The big change, he said, is a restructuring in the way deals are done. Many stations in the past would pick up play-by-play to bring a new audience to the station, but the cost of rights to major-league games escalated until the greatest hope for many stations was just to break even.

Dorf sees a trend of stations partnering with teams to offer a combined package to advertisers, consisting of radio spots, TV spots and in-stadium advertising. Thus, radio stations are not competing against the team for sponsors.

Dorf sees a trend of stations partnering with teams to offer a combined package to advertisers.

Poole said he suspects there is less play-by-play on the radio than in the past, except in cities with major-league teams. He credits that partly to the large number of choices available on television. If you are in a market where you have a local team, said Poole, you'll do well.

But Lynch said he thinks that, beyond the shadow of the major markets, a lot more play-by-play is going on.

Within major markets, he said, professional sports and major college sports have squeezed out high school broadcasts.

Outside of those markets, Lynch knows stations that broadcast even local high school wrestling and swim meets.

Clearly, sports listeners are out there, some driving home in BMWs, others much younger and lounging in Batman pajamas with their ear pressed against a boom box after Mom turns out the light.

■ ■ ■

Lynn Meadows is a freelance writer based in Virginia Beach, Va.

STATION SNAPSHOT

Live From the Spare Bedroom

Lee Harris

It's 5:30 in the morning and dawn is purpling the sky over the Sonora desert. It's time for Buck Burdette to begin his daily commute to the studios of KBUX(FM) in Quartzsite, Ariz. Buck throws back the covers, stops in the bathroom to brush his teeth and then walks into the spare bedroom of his house.

His commute is over.

In our continuing search for America's smallest commercially licensed radio station, we may have a winner in KBUX. While the story of this tiny station is amusing, it's also inspirational in what some might consider an age of impersonal megalopolis radio. Buck Burdette and his wife Maude are KBUX. The studio and transmitter are in their spare bedroom. The antenna site is in their backyard.

There are no employees, and the Burdettes are about as far as you can get from absentee owners, because at least one of them is always at the station. Buck chose every piece of music, and that's his voice you hear between selections, not a voice-over guy who sent in the tracks via ISDN. KBUX is about as personal as radio gets.

Great idea

The Burdettes were running a trailer park in Quartzsite when Buck became frustrated that he could barely pick up any radio stations in the desert.

"I figured, why not start my own station? So I looked at a few pamphlets and started on the paperwork," he said. What was Buck's previous broadcasting experience? "I used to be a locksmith, and I once changed the locks at a radio station in Rochester, N.Y." That's good enough for the FCC, so by 1988 Buck had his license. What he did not have was enough money to build his Class A FM station in what most of us would consider a conventional manner.

Lacking the funds for even a 1 kW transmitter, Buck popped for a 100 W mono AEG, which he has since replaced with an equally powerful but stereophon-

ic Harris transmitter. Antenna towers are also expensive, so Buck came up with a less costly alternative.

"I located an 80-foot wooden pole, stuck 8 feet of it in the ground and put a four-bay Comark antenna on that, giving me an effective radiated power of 200 watts." Buck knew he wasn't going to be able to afford an airstaff or a fancy automation system, so he came up with a solution that probably wouldn't have occurred to most experienced broadcasters.

"I'd heard about these Metrotech 500-logger tape machines that could run 14 hours non-stop on a single 10-inch reel, so I bought a couple of those, used, of course." Buck's entire on-air music library is on nine of these 14-hour tapes, which run on the air at 1-7/8 ips. "I had this engineer from Palm Springs stop by one day and he was amazed at how good the sound was, considering the speed of the tapes," said Buck, adding that the engineer said he never would have thought of doing such a thing. Probably not.

The rest of Buck's audio chain consists of a Ramko stereo console, an old double-slot Collins cart playback machine, an ITC record/play cart, a couple of Technics turntables and some consumer-grade CD players and cassette decks. Production is done on the audition side of the on-air board.

It all sits in the spare bedroom, along with the transmitter. Buck pops in once or twice an hour, stops the tape at the end of a song, drops in some spots, maybe does the weather, restarts the Metrotech and goes about his business. Just before bedtime, Buck makes sure he's got enough tape on the Metrotech to run overnight, and then he hits the hay in the next room, as KBUX keeps cranking out what may be the oddest mix of music on the radio anywhere.

What might you hear in the average KBUX quarter hour?

"You might hear a country and western, then a polka, and then a classical piece, a big band thing, some organ music, all in a row, anything except rock," said Buck, who assembled the

format from his personal collection of some 3,000 records. "People tell me that they've never heard a format like this and they really love it. We get lots of folks who come to Quartzsite every winter in their campers and they always say how glad they are that we're still on the air."

In addition to being glad, they should be amazed, considering Buck's sales figures. Buck is the station's only real sales person, and by his own admission, not a very good one. KBUX grossed \$17,000 in 1996. Did he turn a profit? "Not really. I used the money for my own living expenses. I don't have many costs that are specific to the radio station, just the music licensing fees."

Occasionally, Buck finds somebody willing to sell advertising on a straight commission basis, but usually he's on his own. Buck admits that he's a little disappointed by his revenue trend.

"I thought it would be a little bit better, that I'd make enough money where I could lease some equipment and put my transmitter up on one of the mountains, get national advertisers, and make it a little worthwhile. I never figured that I'd become a millionaire off this station."

Small bucks for KBUX

Now and then Buck gets an inadequate offer for KBUX ("they want it for nothing"), but despite his barely adequate billing, he has no plans to get out of the business. "I'll turn 65 next year, so I'll be retired, and this will be more of a hobby, really. If I get my license renewed I'll just keep running as long as I can, because the people out here tell me they just love what we do."

By the way, Buck says if you're ever in Quartzsite, please feel free to stop by and visit. He regrets that he can't put you up for the night, but you see, the spare bedroom is occupied.

■ ■ ■

Lee Harris is morning anchor at all-news WINS(AM) and a former station owner. He is also president of Harris Media, a website design and hosting firm. Contact him via e-mail at lee@harrisnet.com

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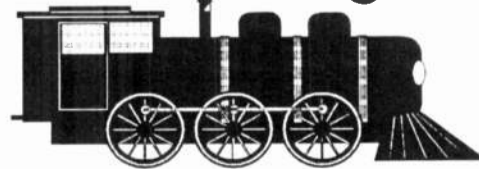
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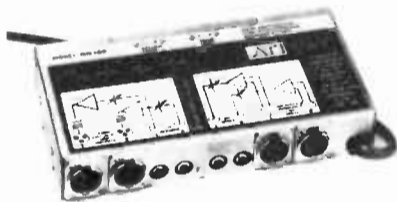
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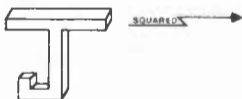
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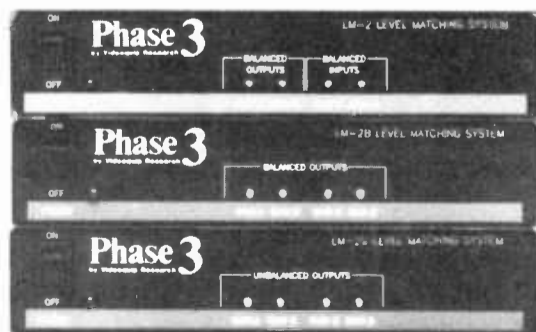


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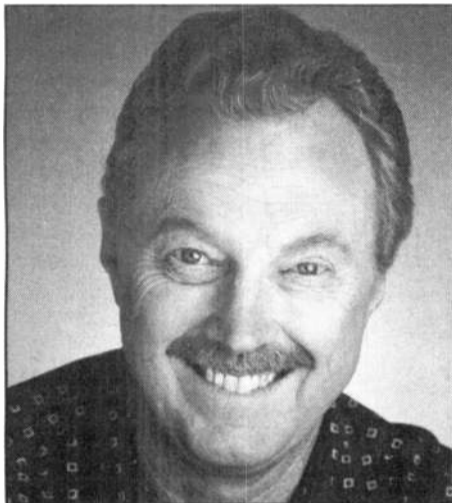


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Lew Jones



"Many of these artists who were in the mainstream of country music just a few years ago now receive little or no exposure," said Phil Barry, Jones Satellite's vice president of operations and programming. Classic Hit Country is the sixth country programming offering from Jones Satellite.

Lew Jones was named operations manager for the new format. Jones' extensive credentials include a stint from 1994 to 1996 as program director at The Branson Network.

For information, contact Jim Murphy at Jones Satellite Network at (303) 784-8700; or circle Reader Service 228.

Print-Radio Synergy With News Weekly

Radio broadcasters now have access each week to U.S. News and World Report magazine — two days before it hits the newsstand.



Each Saturday, the magazine will be available via a toll-free telephone line or the Internet. Broadcasters can adapt the stories for radio broadcast. The service is provided under an agreement between U.S. News and World Report and North American Network Inc., which owns the Internet service Radiospace and the telephone actuality service NewsDirect.

For information contact Steve Murphy, North American Network, Inc., at (301) 654-9810; or circle Reader Service 229.

Pointers for Producers

Key aspects of radio production are slat-

ed for discussion during the third annual "Producer's Workshop," May 17, at the Radisson Empire Hotel in New York City.

Topics include "Creating Powerful Radio," "Using the News" and "Producing the Sound." The workshop is presented by Geller Media International. The \$195 registration fee includes lunch and a copy of "Creating Powerful Radio: A Communicator's Handbook."

For information contact Geller Media International, (212) 580-3385; or circle Reader Service 205.

Living the Dream

What do Alice Walker, Martin Luther King and Roberto Clemente have in common? According to the Nostalgia Broadcasting Corp., all succeeded in achieving their goals.

"The Color of Success," a two-minute short-form program newly available from NBG Radio Network, offers success stories of these and other people of color. Former NBA player Mychal Thompson hosts. The program is available via satellite or cassette through a market-exclusive license agreement.

For information contact John A. Holmes at Nostalgia Broadcast Group, (503) 293-2601; or circle Reader Service 181.

Wicked Wit' Dishes Radio Rants

There's a new candidate for King of All Media: Dennis Miller. Dubbed "TV's wickedest wit" by TV Guide, Miller has conquered the world of publishing with his best-selling book "The Rants," received four Emmys for his work on television, and can now be heard on radio.

Excerpts from HBO's "Dennis Miller Live," which airs Friday nights, are available Monday through Friday of the following week to Westwood One Entertainment affiliate stations. An example of Miller's humor from a recent program: "You look for honesty in show business, you might as well be looking for Parliament Funkadelic albums at [Mark] Fuhrman's house."

For information contact Renee Casis at Westwood One, (212) 641-2052; or circle Reader Service 157.

Hispanic International Superstars

A new network bridges the areas of programming and promotions. International SuperstarS, from The Hispanic Satellite Network, targets music and news to the Spanish-speaking population in the United States and Canada.

International SuperstarS features hits from the 1970s, '80s and '90s, as well as 5-minute newscasts on the hour. International issues are spotlighted during exclusive reports from other countries. Sales assistance and promotional ideas are included as part of the International SuperstarS package.

For information contact Jim Metcalfe at The Hispanic Satellite Network, (888) 686-9966; or circle Reader Service 133.

RAB Debuts Auto News Tool

The Radio Advertising Bureau wants to help you sell to the auto industry. Its latest sales tool, The AUTOSIGNAL, is a

special bi-weekly edition of RAB's publication Radio Sales Today, offered only to RAB members.

Editor Mary Bennett has 22 years in radio sales and management, primarily in the Detroit area, hotbed of the auto industry. According to RAB, "The real expertise in great auto dealer promotions comes from working with dealers every day, and The AUTOSIGNAL will feature successful client promotional ideas" from RAB members.

To learn more about RAB membership, contact the organization at (800) 232-3131; visit the RAB website at www.rab.com; or circle Reader Service 109.

In the Garage With Radio Shows Ltd.

Listen up, race fans and race programmers: syndicator Radio Shows Ltd. now offers NASCAR program "In the Garage with Donnie Allison." It gives listeners a behind-the-scenes look at the popular sport every Sunday, immediately following that day's race. The company said it is the only Winston Cup post-race, nationally syndicated radio show. Allison is a 10-time winner of the prestigious Winston Cup.

The show is a two-hour, live weekly broadcast, for 34 weeks. It includes analysis of each race and conversations with drivers, crews and owners. Monday through Friday, stations can carry "Donnie Allison Unplugged," a 90-second look into NASCAR racing.

"NASCAR racing is growing so much in popularity now that almost anything associated with it is instantly a huge success," said Radio Shows General Manager Jeff Dorf.

For more information, contact Radio Shows Ltd. at (800) 988-4341 or circle Reader Service 85.

Millennium Report Launched

Beginning May 5, the Millennium Report, a nationally syndicated radio program, will provide listeners with a daily broadcast covering a wide range of topics.

The two-minute show will explore scientific, medical, lifestyle and environmental advances, "gee whiz" gadgets and learning devices. The program is hosted by Ike Pappas, a former CBS news correspondent, whose network collaborated with Dick Brescia Associates to produce the program.

Pappas is a former CBS News correspondent who began his broadcast career at WNEW(FM) in New York, where he covered the first moon landing.

He left CBS in 1987 to start Ike Pappas Network Productions. Dick Brescia, president of DBA, stated Millennium Report topics will provide stations with plenty of sales opportunities in their local markets.

For information, contact David West at Dick Brescia Associates at (201) 385-6566; or circle Reader 61.

Disney World Concert Series

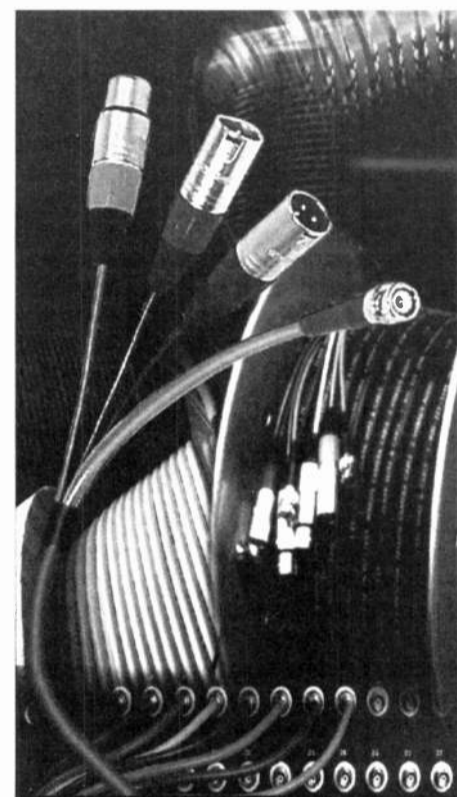
Premiere Radio Networks Inc. and the National Music Critics Association (NMCA) have launched "The Big Bang," a series of 90-minute syndicated radio specials hosted by the Walt Disney World Resort.

Rock and country music artists will perform. The show will also provide an "insider" look at the celebrities behind the music hosted by a prominent journalist from the NMCA.

The concerts — expected to number more than 20 this year — will be hosted from several Walt Disney World Resort performance facilities, including locations at Pleasure Island, the Disney Institute and Disney's BoardWalk.

AtlanticPacific Music will produce the NMCA series.

For information, contact Premiere Radio Networks at (818) 377-5300; or circle Reader Service 37.



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FCC Case Raises Tower Issues

Jacqueline Conciatore

A recent case before the Federal Communications Commission highlights a problem with which stations may become more familiar soon: signal interference resulting from crowded tower fields.

In February the FCC upheld its 1996 decision to fine the Fayetteville Cellular Telephone Company \$4,000 for constructing a tower a half-mile from that of WIDU(AM) without notifying the inspirational/gospel station.

The FCC requires that mobile service licensees constructing towers within 1 km of a non-directional AM station notify the station prior to building.

The phone company said it detuned the tower after WIDU's initial complaint, but the station was still experiencing pattern distortion, according to station spokeswoman Valerie Washington. But the station cannot afford the costly engineering study required to prove the problem persists, she said.

WIDU's attorney at the time, Mark Prak, no longer represents the station and did not want to comment on the case. But Washington communications attorney Howard Weiss of Fletcher, Heald and Hildreth said more stations are likely to see such problems as new cell phone companies and other communications companies emerge.

"You're going to see more and more of this. We've got PCS, cellular and now we will have DTV. It's going to be a nightmare," Weiss said.

Concern among members of the public about any biological hazards associated with electronic fields also makes it difficult to place new towers.

Weiss called the publicity about health hazards "scare tactics," but the effect is not arguable. "Many communities just don't want any towers, so they try to push them in antenna farms, and keep everything close together," he said.

The interference scenario can be especially unwelcome for small-budget stations with limited resources for legal action, Weiss said. But FCC regulations require that public mobile services that build next to existing towers bear the cost of any research pertaining to the pattern distortion. This rule would apply generally to other communications outlets.

EMC compatibility

Meanwhile, participants at the recent National Association of Tower Erectors Annual Conference and Exposition in Phoenix discussed the health risks associated with electromagnetic compatibility (EMC). EMC problems are surfacing with the proliferation of new towers, transmitters and antennas associated with new telecommunications services in the United States.

Lawrence Behr, CEO of LBA Group Inc., said: "The random 'glitches' of the past will present severe operational problems in the future. This can't be lost sight of in the rush to build facilities. How can a wireless operator risk EMC-induced instability in an unshielded switch, or a tower worker injured from radio frequency burns? You simply can't be customer-oriented, cost-effective and safe and ignore this growing problem."

Can Nets Make Money On the 'net?

Dee McVicker

Remember when a network was something you joined at the top of the hour, not a row of computers? Those days may be waning, but there's something to be said about networking of the affiliation kind, especially as it relates to networking of the computer kind.

Consider NetRadio Network (www.netradio.net) and The Radio Channel (www.radiochannel.com), two Internet ventures doing their own versions of radio networking.

The Radio Channel, based in New York, is a network of station and advertiser Web pages. The idea: give advertisers an Internet outlet for information on the products they advertise, and give radio broadcasters a way to make additional money providing the service. In short, listeners with Internet access can request ads heard on radio stations by querying www.radiochannel.com for the advertiser or call letters. They can also look up station websites by state.

It's as close to synergy as radio and the Internet have reached. Stations sell advertisers pages on the site, adding their profit to the cost of a Radio Channel page at the same time they sell the advertiser air time. In return, the advertiser receives what has eluded his or her radio spots: a place to put — and for customers to find — all the particulars on the advertiser's product or service.

Eli Stern, president of The Radio Channel, said stations can raise at least 10 percent additional advertising revenue — more, if they put in a campaign effort and come together on an Internet site as easily remembered as, say, the frequencies on the AM or FM band. The Radio Channel is on the 'net to give stations a common address.

See NET, page 47 ▶

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The Master Control Studio, shown right, is one of seven Arrakis studios in Sony's Manhattan network origination center for SW Networks.



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Narda RFR Safety Talks

Narda, maker of non-ionizing radiation safety gear, is offering a series of one-day seminars around the country to train engineers and managers to manage radio frequency radiation in their environment.

The seminars are targeted at professionals in the radio, TV, cellular, PCS, paging, tower maintenance, satellite uplink and related fields.

Participants will learn about biological effects, employee safety, company liability, national and international standards, FCC regulations, how to set up a safety program, and the latest RFR safety equipment.

Seminars are set for:

- May 6, Dallas/Ft. Worth
- May 29, Boston
- June 17, Washington

Cost is \$125 and includes continental breakfast and buffet lunch.

To register or learn more, call (516) 243-0838.



Listeners can link to advertiser sites.

► NET, continued from page 46

Stern started The Radio Channel not long after he heard an interesting spot on a local station while he was driving. After dial-hopping around, he couldn't recall the station, the frequency or the advertiser who had caught his interest. Even if his finger happened to land on the right frequency at the time the ad was playing again, he had no immediate means to write down the advertiser's phone number to inquire about the product.

There had to be a better way to get advertisers' detailed product information, and phone numbers, without scrambling for a pen every time, he thought. "This was when I realized that a 'Radio Channel' of sorts was needed. And mainstreaming the value of 'visual radio' became my goal," he said.

Money on the Internet

There is also something else at play here: The Radio Channel concept is perhaps one of the most practical avenues for making money on the Internet, at least initially.

Getting their share of profits is probably the biggest issue faced by executives considering how to use the Internet, and radio executives are no different. Stern said radio websites generally are not yet profitable, costs are high, the audio output inconsistent, and access entirely too slow for most users. Many computer users are still using 14,400 baud modems.

Still, that hasn't stopped Minneapolis-based NetRadio, which bills itself as the first 24-hour, 7-day-a-week, Internet-only radio network. Since its debut in November of 1995, NetRadio has averaged more than 10 million hits a month to its website.

It "broadcasts" nine music formats over the Internet using RealAudio. It offers newscasts on events, politics, sports and business, updated several times a day, as well as personality profiles, short-takes on music history, coming attractions and quizzes. At least one of its channels, or stations, consists of highly segmented sub-formats of a genre, with information on artists, songs and news supplied in catchy graphics and tunes.

Occasionally, NetRadio carries a live event, as it did a Tony Bennett concert on

Valentine's Day, when it streamed audio over the Internet to a global audience in simulcast with A&E Cable TV Network. Listeners could send their requests live via e-mail direct to Bennett during the concert.

Like any other radio network, this one has a studio to originate programming. Café jazz, classical, country, modern rock, pop hits and rock come from the Minneapolis studio, while three programs are outsourced: a Christian hits format, an eclectic potpourri of world music formats, and Radio AAHS from Children's Broadcasting Corporation. Radio AAHS broadcasts from flagship station WWTC(AM) of Minneapolis and is distributed to 30 radio affiliates nationwide. The virtual radio network pays a royalty to CBC for the use of Radio AAHS programming, based on the revenue it gener-



ates from the site.

It's not a windfall, according to Rick Smith, the executive vice president of national radio sales for Radio AAHS, but "at this point we're developing traffic." Which is shorthand for increasing market size. Whereas CBC's Radio AAHS is available through its broadcast affiliates to approximately 40 percent of the country, its Internet radio broadcasts put the

format into many more national, as well as international, homes.

It's obvious why national and international advertisers like radio on the 'net, and why audio providers. NetRadio included, fill their coffers by selling ad time, or space, through banner advertising and audio ads.

If there is such a thing as tradition on See NET, page 48 ►



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Poochy Sprints Through the Web

Alan Haber

Ya know, it's hard to get work done around the ever-canine-y global *Haberspace* headquarters when my beloved Poochy the Cyber-Mutt has his friends over to play. Yup, they're rompin' and rollin' around the computers and modems and push and pull technologies, basically upsetting the cyber-apple cart, havin' a humdinger of a time!

Well, there's work to be done around here, and I think ol' Poochy and his friends are the ones to do it! These old



dogs have to be taught a lesson — no playing around while the fingers-to-the-keyboard staff is compiling the latest Internet news for all those loyal Haberspacers out there.

So, without further cyber-ado, I turn over this month's column to Poochy and his pals. Let's see what they sniffed out for you!

Poochy?

Poochy embarks

Spacey? This'll be a snap, 'cause I've got all that experience with my Poochy's Pick in January! Oh, yes ... bark, bark! Arf, arf! Howdy hello!

I just finished digging my paws into a site for WMUC-AM-FM in College Park, Md. (www.wmuc.umd.edu). I noticed that the station says, on the page telling listeners how to improve their reception of the station, "If you can't tune us in, you live too far away." Hey, I get it! But, you know, dogs can hear a whole lot more than humans, so don't be too sure about that!

Now that you know how savvy a pooch I really am, let's move on to some other stuff me and my canine buddies dug up. We were thinking of taking off for Daytona Beach this summer — you know, sun and sand and babes! So imagine our surprise when we realized we can't drive!

Plan B: Spend some quality doggie time in Champaign-Urbana, Ill.! Hey, our bags are packed full of biscuits and treats, and we're ready to go! While we're there, we may sniff out WEFT(FM), a community radio station that serves East-Central Illinois.

The fine folks at WEFT have a nice little website at www.prairienet.org/arts/weft. There was lots of information there, which me and the boys found very illuminating: news about the station's pledge drive (the goal is to collect \$30,000 — that's a lot of poochy bones!), music charts, program schedules, station news, and more. It's not pretty, maybe — just lots of information — but it works, and that's what I think counts.

Now, just in case the trip to Champaign-Urbana doesn't pan out,

we've got a Plan C (we're nothing if not ready-for-action canines): romp on over to WBBE(FM) in Gifford, Fla., and check out what's buzzin' at B94.7.

The fur flew as we pawed our way through the station's site, located at www.bee94.com. This CHR station has the goods: attractive-looking pages and a funky bee mascot sitting on top of its



logo. And let's not forget the marketing survey that people can fill out while visiting the site — prizes might be won!

My nose is always cold for photos and bios of station personnel, so I checked them out here. Note to Mike Michaels, morning guy and assistant program director: Get that ear problem taken care of — holding it with your left hand won't do any good!

A trip to Napa Valley, Calif. would do some good, however, especially for wine connoisseurs like ourselves! In anticipation of our trip to Wine Country, U.S.A., which I'm awfully sure we'll take, we checked out KVON(AM)'s website, informing visitors at www.kvon.com/index.html.

They call their station "Smart Radio," so we figure this is the place for us! We're pretty smart doggies! From here, we looked at some Napa Valley news, Wine Country weather, and a map of the station's coverage area (whatever that is). We saw some grapes on the map and got hungry — hungry's all we know.

Old Haberspace himself said that as long as me and my fellow pooches were surfing for radio station websites, we ought to make note of one that is broadcasting on the Internet. We found one that serves catfish, and you know how doggies love fish (well, we doggies do!).

We found a country station called



Katfish 95, which is WKTF(FM), in Jackson, Miss. This station's website is located at www.katfish95.com. We listened to a broadcast in RealAudio 3.0 and we loved what we heard.

It sounded like a million bucks. We also loved the links on the framed home page, presented like buttons on blue jeans. We really loved the catfish rocking back and forth on the rocking chair — good enough to eat!

We made sure to pawse on the site's promotions page, where we found out we could win a George Strait Resistol cowboy hat, with the signatures of more than 40 country singers! Now, granted, separately none of us doggies could wear this hat, but we could probably all fit underneath it together! I'll let you know if we win!

Well, bark bark, arf arf, and howdy bye-bye! That's all for now!

Poochy takes the high road

Thanks, Poochy, for proving what I always thought was true: you are a loyal Haberspacer yourself, and worthy of a regular spot on the staff. Go out in the cyber-yard and play for awhile!

From now on, Poochy, you'll be expected to come up with your Poochy's Pick — the best site of the month — every other issue. Get outta here, you tail wagger!

The rest of you loyal Haberspacers should make sure to put your cold (or warm) noses to the grindstone (but don't keep them there for too long) and e-mail me with news about your station's cyberspace adventures. The address, as always: zoogang@earthlink.net.

And now, back to the cyber-grindstone!

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Net Advertising

► NET, continued from page 47

the Internet, making money through banner advertising is the traditional way to create revenue. But it's not the only way.

Every month, NetRadio features 13 CDs from a variety of music genres that are available for a sale price.

Users download coupons and redeem them at participating Musicland, Sam Goody, Media Play and On Cue stores.

"Frankly, as a revenue vehicle, that is much more attractive than simply selling CDs or getting a commission on passing potential customers on to a virtual CD retail site," said NetRadio Director of Sales and Marketing Jan Andersen.

NetRadio stumbled on the downloadable coupons for one advertiser, and it has become a ticket to revenue.

But Andersen and Smith are con-

vinced that audio is the real ticket to success in this arena. The Internet, they say, is the perfect forum for developing specialized formats and selling them for the unique demographics needs of some ad campaigns.

Just how each will go about providing that audio is, of course, the million-dollar question.

"The way the Web's going and the way radio is going in general, it's really important for stations to band together.

You need a collaborative effort to make it work," said Stern, mirroring an observation made by many broadcasters.

May the best network win.

■■■

Dee McVicker is a freelance writer and regular contributor to *RW*. Reach her at (602) 545-7363 or roots@primenet.com

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See Page 52

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PRODUCT EVALUATION

Sampling the E-mu E4K Keyboard

Brian Cooney

Samplers, in their many forms, have played a significant role in radio production. When production directors realized how they could streamline their daily efforts with the help of samplers, they begged and pleaded with management to snap up whatever they could. As a result, EMAXes, Ensoniq Mirages and Roland S-10s turned up everywhere.

In what I now call "The Analog Age," samplers were almost a necessity. They were used widely for instant effects, calling up favorite sounds or effects that were used to establish a radio station's identity. They were useful for assembling music montages in the quickest, least painful amount of time.

And, of course, who could ever forget the infamous early-to-mid '80s Max Headroom "stutter" effect?

Remember the primitive *freeze* function on the Yamaha SPX-90? That was the official "My-GM-Won't-Spend-Money-On-Anything" sampler.

The future has arrived

The Digital Age, however, has somewhat changed the need for samplers. DAWs with powerful editing features have allowed production folk to manipulate audio in ways that couldn't be done in the analog domain.

Working with digital has obligated us to find new, innovative ways to utilize

samplers. The E-mu E4K Sampling Synthesis Controller can help you do just that.

get you up and running quickly.

E-mu set up the E4K into a number of operating categories:



The E4K Sampling Keyboard From E-mu Systems

This latest creation from E-mu is a full-blown sampling monster. It is primarily a sampler and sound organizer. The E4K allows you to sample a source then edit to your heart's content. From that point on, the sky is the limit and the choices are up to you.

The design of the E4K is user-friendly. Since it is basically a computer, it is easy to maneuver around. The solid, high-resolution LCD screen offers soft key functions, icons and more to make operation simple, direct and to the point. Investing a little time with the manual in hand will

- The disk drive is the largest element and the brains of the E4K. It allows you to save work and load sounds from other sources via SCSI such as external drives, CD-ROM and optical drives. The E4K is fully compatible with other E-mu sounds and can read Akai S1000/S1100 and Roland S-700 series sounds without any funky conversion routines.

- The Folder is used to group and organize collections of banks, which of course, brings us to...

- Banks, wherein reside all samples, voices, and presets; basically everything that resides in RAM.

- A Voice, which is a complete sound consisting of a sample or samples and all synthesizer parameters.

- Finally, there is the sample itself and a *sequence*, or a file of the performance to be played back.

The E4K in use

The E-mu E4K is outfitted with everything you need to create music or manipulate audio for production.

The 76-note, six-octave keyboard gives you a wide range when dealing with the placement of samples. On the front panel you will find four Real Time Controller faders. The function of each fader is completely programmable per preset. Too much reverb in a sample or sound? The controllers can be used to instantly affect the E4K's internal 18-bit dual-stereo effects processor.

Another handy feature on the front panel are three convenient assignable keys. You can program any of the keys for instant access to whatever part of the machine you desire. Controls for the sequencer, which mimic a tape recorder, are also here. Also included: a handy data wheel, preset select buttons, up/down/left/right increment arrows, and system access buttons.

The back panel offers plenty of choices. Besides the standard power switch, find a headphone jack, foot pedal jack, standard MIDI In, Out and Thru jacks and quarter-inch balanced I/Os. Also included are SPDIF digital I/O on RCA jacks and a SCSI port.

But E-mu also included some great extras. Like an option port directly above the SCSI port. An ASCII interface for plugging in a standard IBM PC-style

See E-mu, page 53 ▶

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SHORT TAKE

New Microphone, Classic Construction

If you want a one-of-a-kind mic for your station, here is a product that really makes a statement: the SML-1 from Standard Microphone Laboratory of Mill Valley, Calif.

This new mic is a handmade, limited-run product designed to resemble the famous ring-and-spring mics of the 1930s, but equipped with contemporary electronics that allow it to hold its own against other pro-quality microphones.

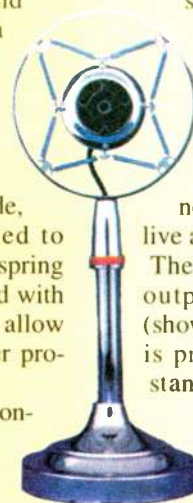
The solid brass and bronze construction is heavily plated with a nickel finish. The element is a contemporary electret condenser, run by an internal lithium battery. A set of stainless steel springs

suspends the mic capsule inside a 6.25-inch outer ring. The company is now working on the SML-2 mic, which has phantom power.

The art deco design of the SML-1 makes it appropriate for nostalgia-formatted stations and live appearances.

The mic has a high-quality sound output and can fit a desk stand (shown) or a floor stand. The SML-1 is priced at \$825 and comes with stand, cable and output plug. The mic alone is \$750.

Marketing of the SML-1 mic is being handled by Bob Kearns of TCS Sales. Contact him at (800) 724-7240 or circle Reader Service 31 for information.



Low-tech Answers for Warped Discs

Read G. Burgan

Someone recently sent me a number of War Department and Voice of America (VOA) 16-inch transcriptions. The good news was that several contained broadcasts of Fred Waring and his Pennsylvanians, one of America's most popular musical programs during the 1940s and still one of my all-time favorites.

The bad news: one was severely warped along its outer edge, and another had a crack running through half of the playing area.

With fingers crossed I placed the warped record on my transcription turntable. When the stylus hit the warp, it bounced like a high school gymnast on a trampoline. Not good.

Bend me, shape me

What do you do with a record with severe edge warp? First I tried an easy solution. I had a 16-inch aluminum disc salvaged from a damaged aluminum-based transcription. One side is covered with felt. Placing this on the turntable, I clamped the warped transcription to it with metal clips fabricated from earring sets from the local craftshop. After eight clips, the transcription's edge was uniformly flat all the way around.

Now came the test. I placed the stylus on the revolving transcription and waited ... Zing! It hit the warp and flew out of the groove like a missile. So much for an easy solution.

It was time for Plan B. When I was in my teens, my father — chief engineer at a local station — talked of flattening warped records by placing them between

two pieces of glass under a weight and putting the whole affair in an oven.

I don't recall him actually doing this, but he talked about it as if it were a proven technique. Besides, it sounded good.

All I had was a gas oven. I was not about to place Fred Waring in there. "Warped" is one thing, "reduced to a blob" is another. But I did have a woodstove with a marble base on the floor in front of it.

When the stylus hit the warp, it bounced like a high school gymnast on a trampoline.

I salvaged two 16 x 20-inch pieces of glass from picture frames, sandwiched the transcription between them and placed a large concrete block on the top piece of glass. The whole thing went on the marble surface in front of the woodstove. Then I waited the entire day.

When I could wait no longer, I undid this Waring sandwich. The record was indeed flatter, but not nearly flat enough. One lap around the turntable proved this. The stylus again went ballistic coming out of the warp.

School days

My old grad advisor, Merrill C. Tenney, used to talk about "putting things on the backburner": When you can't solve a problem, go on to something else. Let your subconscious wrestle with the problem.

Several days later, I suddenly remembered an afternoon's excursion once tak-

en in the back of a bus on Michigan's Brockway Mountain Drive. Every time the driver nailed one of Brockway's rollercoaster-like dips, my head hit the ceiling of the bus. Soon, everyone in the bus was yelling "slow down" in unison.

Slow down ... hmm. When the bus slowed down, my head no longer hit the ceiling. Would slowing down the turntable allow the stylus to stay in the groove?

Somewhere in my garage junk pile was an old turntable I knew had a 16-2/3 rpm setting and a tonearm capable of handling 16-inch transcriptions. After scrounging up cartridge hardware, I was soon in business.

But would it work? Would 16-2/3 rpm be slow enough?

Fred Waring at half-speed is remarkably unpleasant. Fingernails on a blackboard would have been preferable, but I persevered.

The stylus slid to the bottom of the dip. It hit bottom, then violently changed direction and moved back up. An eternity seemed to pass as I waited to see if it would stay in the groove. And it held!

It played through for one revolution. Then two revolutions. It actually worked. I copied the transcription to computer, digitally restored the speed and then proceeded to clean up as much of it as I could.

One down, one to go.

Spirit of 67

What about the transcription with the crack? Stabilizing the split was the first order. Some sort of adhesive tape seemed to be the answer, but most tape would leave sticky adhesive residue. That would mean salvaging only one side. The other side would be ruined.

After considering several options, I finally remembered good old Scotch #67 Splicing Tape.

Unlike ordinary splicing tape, #67 is designed to remove easily to allow the user to re-edit a splice. I carefully placed

several small pieces of #67 along the crack on one side of the transcription.

Playing it at regular speed caused the stylus to jump back into the groove. But at half-speed, it followed the proper groove. Each time it hit the split there was an enormous whack, but except for a small portion of the record, the stylus tracked.

With this transcription transferred to digital, correcting speed and removing the noise on the computer was a simple matter. None of these programs will ever approach CD quality, but I am happy to say this part of radio's history has been preserved for future generations to enjoy.

Read Burgan is a freelance writer and a former public radio station manager. Reach him at (906) 296-0652 or at rgb@up.net

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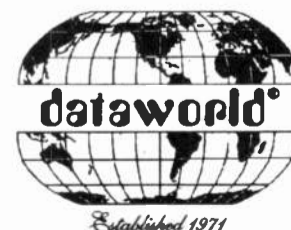
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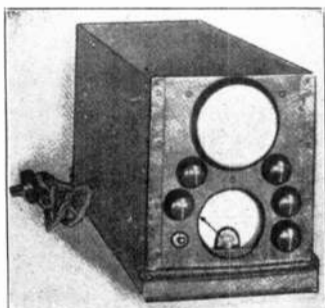


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63 Years Ago

Reprinted from *Radio World* (Date and Year here).

Editor's note: The RW of old, printed for a time in the 1920s and 1930s, and today's RW are unrelated except in name.

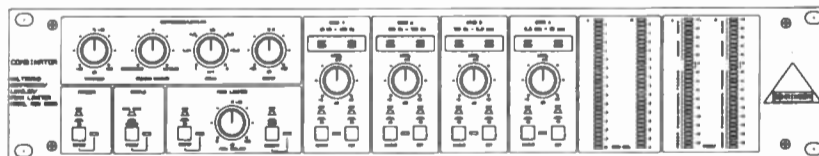


If you needed an oscilloscope in 1934, this is what you likely ended up with.

This homebrew oscillograph used the "new" 905 cathode ray tube to show waveforms, while the meter below was for "relative intensity measurements."

Check out that hand-bent metal case and fabric-covered linecord. This isn't your Dad's Heathkit, but it might have belonged to your grandpa.

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Hey Bullwinkle: It's June Foray!

Sallie Schneider Sauber

If you have ever wondered about the behind-the-scenes voices of some of your favorite cartoon characters, the mystery is about to end right here ... unless we are talking about the "Sylvester and Tweety Mysteries," in which case, the fun has only just begun.

Remember "Granny" from the beloved Warner Brothers cartoon shorts featuring Sylvester and Tweety (among others)? Then you may already know who I am talking about.

If you can mentally place the sound of Witch Hazel (both Warner and Disney versions), Dudley Do-Right's girlfriend Little Nell Fenwick, Ursula from "George of the Jungle," Mr. Peabody's boy Sherman or Marigold from "Tom Slick," you are well aware of the vast repertoire of this marvelous voice actress.

Perhaps the two best-known voices in our Mystery Guest's bag of tricks are Natasha Fatale and, last but absolutely not least, Rocky the Flying Squirrel.

That's it, mystery's over. I recently talked a little shop with popular voice actress June Foray for *Studio Sessions*.

Staying busy

June Foray Donovan and I spoke of cartoons, creativity, Howard Stern and what it takes to be a voice talent.

Foray still does cartoons, commercials and children's stories and is on the Board of Governors of the Motion Picture Academy, representing short films. She is also on the International Board of Women in Animation and occasionally appears on talk shows. Her appearance on the Maury Povich show partly solidified my decision to pursue a career in voice work.

I didn't know what to expect, but

when I phoned for an interview she replied with enthusiasm. "Oh, I think it's a wonderful idea!" I knew right then what an honor it was going to be to write about this great and wonderful talent.



This is the Real Rocky: Actress June Foray

Foray remembered her mother's efforts to mold her talents at a young age.

"My mother was a marvelous singer and a pianist and my parents were very cultured people," said Foray, in that well-known voice. "They would take us to operas and plays and the movies and at six years old I would impersonate all these people."

Her mother signed her up for dancing lessons, then piano lessons, both of which she hated.

"Finally, I said 'I want to be an actress,' so at about seven she and Dad hired some marvelous teachers for me. At 12, I did my first radio show for one of my teachers."

At that point, June was told she was better than her teacher.

"I don't mean to sound egotistical, but she meant *versatile*. And so at 15, I had the audacity to audition for a group of professional people. That's how it all began!"

Rediscovered

When she was 19, June had written a series of children's stories called *Lady Makebelieve*. They had gone untouched for some years, until an earthquake in 1994 serendipitously brought them back.

"After the quake, I didn't even know where my *Lady Makebelieve* stories were," recalled Foray. "The young man taking care of my house said, 'June, there are scripts

that are falling out of some cardboard boxes.' I thought they were my husband's because he was a screenwriter. They were my *Lady Makebelieve* scripts!"

Foray reread them and thought they were charming. She recorded six, which Ted Turner bought with a \$10,000 advance. "A record company dealing in audio books wanted some stories, so I recorded five more called, 'Tall and Small Tales by June Foray.' These recordings will soon be available at Kmart and Wal-Mart stores."

Gosh, Bullwinkle!

One day, fate happened along, disguised as Rocket J. Squirrel.

"My agent called and asked if I knew a man named Jay Ward, that he wanted to take me to lunch," said Foray. "So he and Bill Scott, the head writer and the voice of Bullwinkle, said they had an idea for a show they wanted me to do. It would be about a moose and a squirrel and I would also be Natasha, one of the evil people on the show."

During the recording session for the pilot, Foray asked Ward what he wanted from Rocky. "He said, 'I want a plain Boy Scout-type voice of a little boy. An all-American squirrel, really,'" recalled Foray. "So I tried it that way, putting a

little 'cartoonish' in it and they thought it was absolutely wonderful."

Then came Natasha. Foray recounted, "He told me they're not from Russia, but from Pottsylvania, so make it almost Russian but more 'continental.'"

"Instead of the that *beeg R-R-Russian* voice, I made her more seductive. I think creativity of something new is much more desirable than impersonating somebody."

Foray has fond memories of the recording sessions. "Paul (Boris) Frees, Bill Scott and I did all the Bullwinkle segments. It was like going to a party every night. We would record five segments in one night. It didn't seem right to take the money because we had such a good time."

In production, the Bullwinkle cartoons were voiced first, then drawn. Foray said, "Ours was the easy part because we had a lot of fun, then it was up to the animator to sit at his desk and draw. We had the best part of the deal!"

Thirty-somethings are as familiar with lines from the show as they are any passage from great literature; possibly even more so. Did Foray and her gang know what they had on their hands at the time?

"Oh yes," she said. "We realized the sophistication and wit. The storylines were absurd but very intelligent, and of course we offended everybody. Congress, universities, football teams, history, all kinds of social structures."

Foray was quick to point out that it was a "friendly offensive," not meant to be mean-spirited at all.

**Foray on Stern:
He's a very nice,
thoughtful person,
doing what he's made
millions doing.**

"It was just done in such an innocence," Foray said. "Nobody was really offended ... except Russia, because they thought we were perpetuating the Cold War."

In recent years, Foray was placed in the unique situation of teaching another performer how to emulate one of her most popular characters: She was tapped as voice coach for Sally Kellerman in the live-action movie, "Boris and Natasha."

"I thought she did a heck of a job as Natasha," said Foray, then added, "I'm sorry the script just wasn't clever, the

See FORAY, page 53 ▶

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Earning a Living

June Foray offers the following advice for radio performers aspiring to be professional voice actors and actresses:

"Ascertain that you *have* the talent. You can get one job and then can't get anymore because you don't have the talent to sustain the intense scrutiny that you have to go through with advertising agencies and studios. You cannot maintain that you'll go the rest of your life thinking 'well, my break will come' and it never does. You have to persevere."

A thick skin helps immensely. "Refusal is just so rampant that it could be very devastating to a sensitive person. And the competition is really great. There are so many young people coming in who are extremely talented. They are doing everything now and it is very difficult for somebody to break in, especially here in California."

However, ending on a positive note, Foray notes the revived interest in animation and the amount of work in that field.

"There's so much going on in animation that they're going to keep needing new people all the time."

► FORAY, continued from page 52

way the Bullwinkle Show was. It failed miserably at the box office, but I thought she (Kellerman) did a very good job and she even looked like Natasha."

The live-action script did not thrill Bullwinkle's originators, either. "I have no idea who wrote the script," said Foray, "but I know Jay Ward wouldn't even look at it. He was furious and I don't blame him. There was no dignity to it."

The Stern connection

Rocky's voice has been in commercials, on kiddie records and on the Howard Stern show in the form of an interview-turned-comedy sketch.

"I didn't know about Howard Stern; he wasn't on the West Coast at that time," recalled Foray. "A producer called me and said, 'He's coming to California and you're the first one he wants to talk to.' I said, 'Gee, I'm very flattered.'"

During the show, Foray was in a large room with Stern and former football great Dick Butkis. All of a sudden, Stern handed her a script and said, 'I'll play Bullwinkle and you're Rocky and Natasha.' Foray read the script and noted Rocky's rather unsavory situation in the storyline.

She said, "It was so filthy. I said, 'Howard, I can't do this.' Meanwhile, Dick Butkis kept saying, 'Read it! Read it because I've got some lines later on.' Well, I finished it and I guess all hell broke loose. I have a cousin at an advertising agency in New York who called to ask, 'Did you know somebody was impersonating you?'"

Foray answered, in Rocky's voice, "There's nobody I know who can do Rocky!"

Foray laughed for a moment, then continued. "I thought it was just an on-air interview and that would be the end of it. But they recorded it. And when he (Stern) came out to a radio station here in California he played it. I wrote him a very nice letter and I said 'Please, I don't own (rights to) the characters. Please don't play it anymore.'"

Stern later called Foray and told her, "June, I respect you. If you don't want it played, I won't play it anymore."

Foray's impression of the syndicated personality? "He's a very nice person. He's a very thoughtful person. He's doing what he's made millions doing and you can't blame him."

Playing favorites

It is clear the Rocky voice remains everybody's favorite. And June Foray still has fine feelings about the show and her characterization.

"It was truly so unique," she said. "Nothing had ever been done with sophistication like that, and of course it has become an amazing cult. We realized when we were recording it how brilliant it was. We were all obviously sorely disappointed and disillusioned when it was canceled in 1964."

But don't worry, Ms. Foray is still quite busy. At the moment, she is working on Disney's latest cartoon feature, "The Legend of Fa Mo Lan," as the voice of Grandmother Fa.

One legend working on another Legend. That's June Foray.



Sallie Schneider Sauber is production/traffic director at WATH(AM)-WXTQ(FM), Athens, Ohio. Reach her at wxtq@eurekanet.com or at (614) 593-6651.

Sampling for Radio Production

► E-mu, continued from page 50

keyboard. Two extra programmable footswitch pedal inputs. Plus unbalanced quarter-inch submix outputs. Any pair of channels can be programmed to appear at a sub out.

Also, using a tip/ring (TR) plug configuration, the submix jacks can serve as effects sends/returns. This allows you to put additional effects on particular

own sound, making your station's image strong and unique.

This will take some inventiveness on your part, but the E4K will be willing and able to participate.

I would highly recommend adding more SIMMs RAM to increase the E4K memory. It comes loaded at 4MB and is expandable up to 128MB.

Adding two 16MB 72-pin SIMMs



Sliders to the left are the Real Time controllers. Edit and disk access buttons are shown above the rectangular Sequencer keys.

sounds or samples without having to tie up any effect sends from your mixer.

Probably the most user friendly part of the E4K is the LCD display with the six soft keys beneath it. All the available options are quickly accessible behind a soft key, making the E4K's operation a no-brainer. When loading a sample from floppy disk or an external drive, simply press the Load soft key and the corresponding preset location and you are in business.

Borrowing a desirable trait from DAWs, the LCD screen offers a surprisingly clear view of waveforms as well. When you get into the nitty-gritty of sample editing, the E4K actually shows you an editable waveform instead of a rocky, blocky picture. The E4K sampler edit section can cut, copy, paste, loop, resample, truncate ... you name it. There is also an exciting Doppler parameter to literally put your sample into sonic motion.

A lot of production guys like the ability to "feel" their audio. Most DAWs have audio scrubbing for a tape-over-the-heads feel. The E4K has this feature too, but get this: it's not located at the data wheel. It is actually located in the *pitch* wheel on the far left side, next to the modulation wheel.

I found this location to be advantageous. While rummaging through the soft keys to find truncating or looping commands, you could scrub through your sample to find the start and end points.

Summation

The speed and ease of DAWs have practically made samplers in radio production superfluous. However, if you have extra time in the studio or even at home, I feel the E4K could very well open up ideas for new sonic possibilities. Instead of going to your stockpile of music library CDs you could sculpt your

would mean plenty of mono or stereo sampling time. Plus, the E4K 540MB hard drive could handle a strong amount of stored sound effects.

What would make this a truly great radio device, however, is a full-blown sequencer. E-mu basically designed the 16-track sequencer on the E4K to be a scratchpad. The onboard sequencer can pretty much handle quickie ideas to be bumped up to a true sequencer via MIDI.

If the E4K had a comprehensive sequencer, a great morning show producer or production director could whip together song parodies in a relatively short amount of time. And with all the editing and FX options available on the E4K, it could sound just as if you had booked some pro studio time.

To me, the feel of the E4K is its greatest asset.

The E4K sampler edit section can cut, copy, paste, loop, resample, truncate ... you name it.

Product Capsule:
E-mu E4K Sampling Synthesis Controller

<p style="text-align: center;">Thumbs Up</p> <ul style="list-style-type: none"> ✓ Sample editing features ✓ Superb 18-bit effects ✓ Submix outs 	<p style="text-align: center;">Thumbs Down</p> <ul style="list-style-type: none"> ✓ No comprehensive sequencer
---	--

For more information call E-mu Systems at (408) 438-1921, or circle **Reader Service 7**.

For radio purposes, the E-mu E4K is nicely suited as an on-air recall system if the morning show relies heavily on ten or twenty favorite sound effects or music beds.

If the station is not ready for a

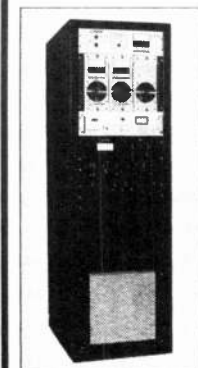
complete fast-replay digital system like Instant Replay or RCS Master Control, an E4K could get the show on the road with better sound quality and quicker cueing time than effect carts. And with a list price of \$3,995, it could very well be an option. A morning show producer with musical aptitude could have fun with the E4K on the show in real time, then free it up for the production department later.

Check the E-mu E4K out at your local music store.



Brian Cooney is a freelance voice-over talent and audio engineer in North Miami, Fla. He can be reached at BCJSPB@aol.com

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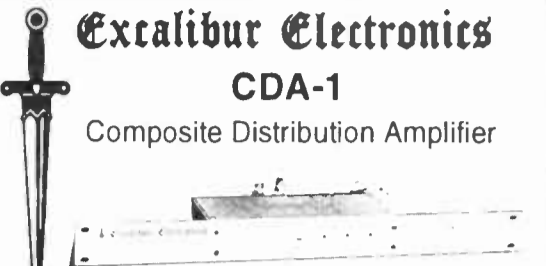
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The DR 707 is the "budget" mic in the product line.

The next model up, the DR 707-S, uses a U47-style capsule and is tonally similar to a U87.

DVA also manufactures mic preamps, power supplies and compressors to complement the microphone line.

For information, contact DVA at (818) 508-2540 or circle Reader Service 156.

Effects for PC and Mac

Power Technology has the FX-Pack



rackmount multi-effect system, controllable by any Mac or PC desktop or laptop

computer.

The FX-Pack is a modular unit that can be configured with up to four of the company's 32-bit DSP-FX processing cards.

The system is controlled by a special interface connected to a computer's serial or parallel port.

The FX-Pack can run simultaneously with hard disk recording and sequencing software and effects can be controlled by MIDI.

New version 1.2 software allows one computer to operate up to eight DSP-FX systems. The basic system is \$1,299 and comes configured with one DSP-FX card.

For information, contact Power Technology at (415) 467-7886 or circle Reader Service 180.

Yamaha Portable Mixer

Yamaha Corporation has launched the MX12/4 mixer, a true four-bus board with internal effects, with a list price of \$599.95.

The MX 12/4 has eight mono inputs with balanced XLR and quarter-inch TRS jacks.

Two stereo inputs have quarter-inch jacks for two-channel sources. All inputs



The Yamaha MX12/4 mixer

have three-band EQ and the master output features a seven-band stereo graphic equalizer.

Built-in Yamaha DSP circuitry provides versatility and eliminates the need for an external reverb.

Channel inserts are available on inputs 1 through 4 and 48V phantom power is on all XLR inputs.

The mixer is less than 18 inches wide, and optional brackets allow rack mounting.

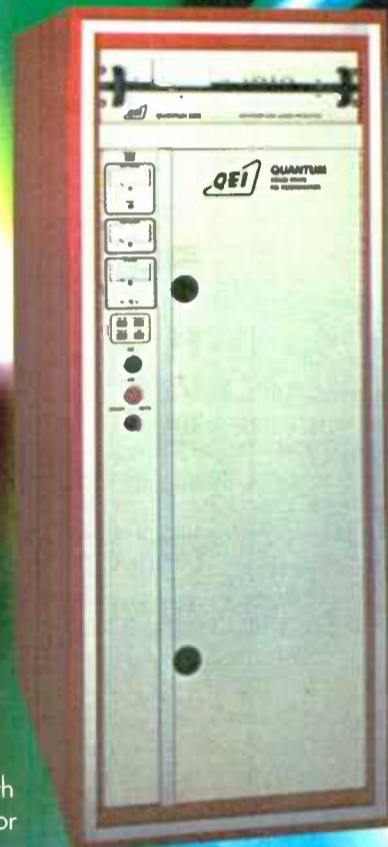
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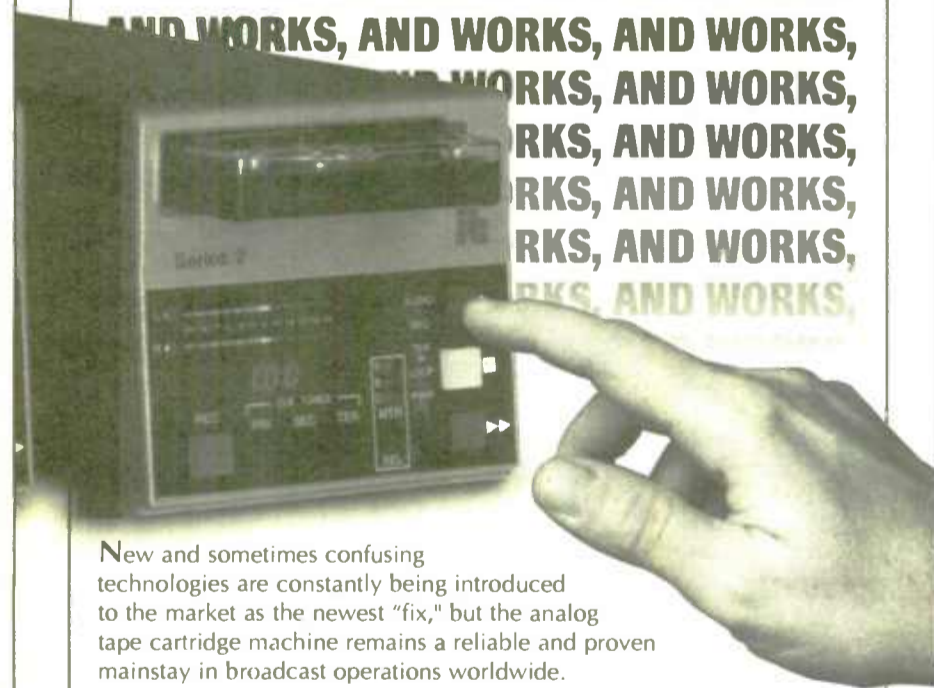
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Comedy CD for Jocks has RW Roots

Alan R. Peterson

It is not often a product hits the broadcast market without extensive research, perhaps a focus group or two and an idea generated by committee rather than some definite point of origin; a "ground zero," if you will.

But sometimes a product is launched from little more than a wacky idea, some hard work and a gut feeling that hey, maybe this turkey will fly. In this case, it gets even better: how about a product that took wing, inspired in part by a series of articles here in *RW*?

Something new

By this time, someone on your staff has heard of a new jock comedy collection called "Dork-a-Pellas," owned and distributed by Dan O'Day's L.A. Air Force — producers of the legendary "Cheap Radio Thrills" collection. Dork-a-Pellas is a CD of vocal jingles done by high-caliber singers with all the sound and lush harmonies of legitimate jingles, except with an unexpected touch of obnoxiousness.

Happy vocalists cheerfully inform callers to "Get off the phone, you jerk," or celebrate a listener's birthday with the joyous sentiment, "We gotcher cake right here (splat)!" These are the jingles you wish your boss bought instead of the saccharin collection you are now obliged to sweep the quarter-hours with.

To a considerable extent, Dork-a-Pellas came to fruition thanks to the involvement of *RW*. What follows is the tale of how this new jock comedy collection came to be.

Last year, I wrote a piece for *RW* on the groundbreaking WEBN(FM) "Lunatic Fringe" jingle package, combining classic jingles with rude but hilarious lyrics. Classic PAMS tracks were re-sung by the talented but slightly warped crew at Ken R Inc., in Toledo, Ohio.

Around that time I also wrote an article on Christmas Reel commercials — fake spots recorded for the station's "goody reel," normally played back at the holiday party. In response, Ken R, himself, (always ready with a great radio story) mailed me a cassette of the company's end-of-year offering, which was blisteringly funny.

During subsequent conversations and e-mails with Ken in September 1996, I commented, "You know, it would be a riot if you were to produce a CD of cuts just like these. Some really funny, off-the-wall vocals, inexpensive enough that smaller market jocks could afford to buy it themselves."

Next thing I know, I'm being told, "Hmmm ... write some."

Can't do it alone

I already knew what I would like to have in a nutty jingle collection, but my wants and interests were by no means universal. So after whittling my hundred or so favorites down to several dozen choices, I rang up a few friends from some other markets.

I knew Don Richardson, formerly of WTNY(AM), Watertown, N.Y., and Jim Douglas of WKJY(FM), Long Island, N.Y., would be good places to start. They were asked, "If you had seven jingle singers in the room with you right now, ready to sing anything at all you wanted

them to, what would you want?"

The results ranged from mild to macabre. Imagine a station with a high workplace TSL playing a jingle stating, "Spend your workday here, 'cause we're gonna rob your house." Or noting the passing of a famous celebrity with a heartfelt "Toe-tagged and outta here!"

Then of course, imagine the clock-radio kicking on at 6 a.m. New Year's Day with the musical question, "How's your hang-over?" The ideas were getting bolder but funnier every time I checked the fax machine.

I culled these ideas along with reams of my own, then sent the list to Ken R, who meanwhile had been writing his own twisted selections in Toledo.

Honestly, it was something of a rush. What began as a silly idea only a few weeks prior was now snowballing and had the potential to be quite funny. I was anxious to see what the singers would come up with.

We have a name

Some time later, Ken R called up to say he had chosen a name — Dork-a-Pellas — and was ready to begin cutting tracks on a rolling basis. Every time his singers showed up for a legit recording session, they would spend a few minutes on the comedy material too.

Ken decided the collection would be more fun with some positively wretched music beds from the '50s (and he was right). On top of these were Ken's own vocal choices and a fake commercial, "Pigeon Jerky, the Cadillac of Processed Meats."

Throughout October, the arrangers and singers worked tirelessly on Dork-A-Pellas, while I continued to send more material their way. By November, a substantial amount of the package was ready and a reference mix cassette was sent to *RW*. Several of us stood anxiously around the boombox in my office, listening to the mixouts.

When taken out of context and seamlessly mixed into one continuous band, jingles make little sense to the casual listener. But folks who had done hard time on the air enjoyed it. The big hit was the one that confirmed every listener's suspicions: "We've gotta go to the bathroom, so here's a long song."

We just might have something here!

Days later, a pair of evaluation CD-Rs were sent out to the Gary Burbank Show at WLW(AM), Cincinnati, and the syndicated Greaseman Show at Westwood One's West Coast studios. Both still have the CDs in their possession to this day, which may be a good sign.

How do we do it? Volume!

Ken R was used to cutting, mixing and shipping custom jingles, but marketing Dork-A-Pellas was going to be a more demanding, more ambitious project than any other. Creating demo tapes, tracking market exclusivity and dealing with advertising would drastically cut into an

already hectic workday out there in Toledo. Ken and company were not looking forward to the time investment needed and still make deadline on hundreds of other projects.

I knew I could be of no help, as my role in the project was limited to instigator and writer. If I had any aptitude whatsoever at sales and distribution, I would be the owner of a beer warehouse by now.

Clearly it was time to bring in some bigger guns. At my suggestion, Ken contacted Dan O'Day in Los Angeles.

O'Day travels around the country doing seminars that transform

capable jocks into market leaders. His "Whole O" catalog includes educational tapes, comedy material and the aforementioned "Cheap Radio Thrills" collection of music and bits created by the great Terry Moss. O'Day is the leader of the L.A. Air Force, has won numerous jock awards and written articles for broadcast publications over the years.

This was the guy.

Ken sent O'Day a sample of the collection and the reaction was favorable. Changes were made, cover art was changed to reflect the L.A. Air Force's involvement and some new cuts were added at O'Day's recommendation, which required more studio time back in Toledo.

Once this was complete, O'Day offered Ken R a tasty price to buy out and distribute the entire run of CDs. The collection was released to broadcasters in mid-March and thus far, jocks who have heard the telephone demo have told me the same thing I told Ken R six months ago: These are the cuts they have been wishing for for years.

My slice of the pie

For all the work, sweat, hopes and dreams that went into creating Dork-A-Pellas, you won't see me pulling up to your front door anytime soon in a chauffeur-driven Bentley, enjoying caviar and pâté on solid gold plates and inviting you to attend the symphony in Vienna with me.

No, back in September when Dork-A-Pellas was just a nutty idea, I cheerfully accepted two custom personal jingles and my own CD copy as my only piece of the action. I didn't sign any long legal documents nor invoke any "therefores," "hereafters" or "to wits." If I have any claim whatsoever to the project, it is only that I helped inspire it and wrote part of it. Fine with me.

Ken, his singers and engineers did all the real work and deserve the real cash. Because O'Day took on the distribution hassles, he has earned whatever price he is asking for on the thing.

I did it primarily for the fun. I was deliriously happy to have collaborated on a major broadcast novelty product — my first — and to know that, if this one flies, talk is already underway on a second collection.

Whether Dork-A-Pellas hits big or crashes and burns, it carries my name (in very tiny letters) and can claim two *RW* articles as its genesis. That is enormously satisfying.

Call the L.A. Air Force sample line at (310) 476-8208, then 1, to hear a demonstration of Dork-A-Pellas.



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PRODUCT GUIDE

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DigiTech Vocalist

The newest entry in the DigiTech Vocalist product line is the Vocalist Performer, a voice processor that generates two harmony parts with reverb. The vocalist is ideal for jingle or commercial bed production requiring vocals.

The one-pound box features illuminated buttons to select harmony parts, mix controls to regulate reverb balance and harmonic mixture and a balanced XLR mic input. Dual quarter-inch outputs from the Vocalist allow stereo or mono operation.

For information, contact DigiTech at (801) 566-8800 or circle Reader Service 55.



Studer Consoles

Studer has two new audio consoles for production, live sound and theatrical applications.

The Studer 928 analog mixing console can be configured with 12 to 96 input channels, available as mono or stereo units.

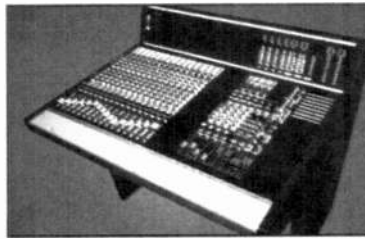
Standard group configuration includes compressor/limiters which can be assigned to the input channels via a built-in patch panel. The 928 features gold-plated switch contacts, 928 semiauto gold-plated switch contacts, VCAs.

The D940 Series is the new all-digital console from Studer, featuring a high degree of modularity, a range of frame sizes and DSP capability.

Channel functions can be controlled from the channel strip or an assignable area and both can be used simultaneously.

The D940 is designed primarily for production and post-production, but can be integrated into a station's all-digital air chain.

For information, contact Studer at (615) 848-5321 or circle Reader Service 13.



Rane Programmable EQ

Rane Corporation has the RPE228, a two-channel, 1/3-octave equalizer, controlled entirely

by IBM-compatible computer.

Each channel has 28 bands of 1/3-octave interpolating constant-Q filters. Boost/cut range is ±10 dB in 0.5 dB

steps. Connections are made to the back panel by Euroblock connectors and the RPE228 handles up to +20 dB levels.

Computer control is achieved through RS-232 connectors on the rear panel. Device address dip switches allow as many as 250 EQs to be controlled by one PC. Proprietary Windows software called "RaneWare" is included and features graphic sliders and a true EQ response curve. The RPE228 requires a minimum 386SX PC running Windows 3.1 or greater.

For information, contact Rane Corporation at (206) 355-6000 or circle Reader Service 62.

Klipsch Professional Speaker

Klipsch Professional introduced the KP-366 speaker system.

Ideal for sound reinforcement at live remote broadcasts and recording sessions with live audiences, the trapezoidal KP-366 is nearly three feet tall, has a 15-inch woofer and a new-design two-inch horn for wide response (45 Hz - 17.5 kHz).

Power handling is 400W and the cabinet is built with 12 internally-braced fly-points for mounting the speaker on above-ground rigging.

The KP-366 is available in a choice of finishes and colors, with two recessed handles for transporting.

For information, contact Klipsch Professional at (501) 777-0693 or circle Reader Service 103.



Manhattan Production Music

Two new releases are out for the Apple Trax (AT) library from Manhattan Production Music.

AT 24 Media Blitz is a collection of modern news themes with contemporary arrangements appropriate for investigative reports. AT 25 Rolling Hills consists of medium tempo MOR tracks and cues, conservatively arranged with strings, guitar, bass and drums. The company's e-mail address is mpmuse@aol.com

For information, contact Manhattan Production Music at (212) 333-5766 or circle Reader Service 14.

Spirit Monitors

Spirit by Soundcraft has a new near-field monitor system, the bi-amplified Absolute 4P.

The low-frequency speaker and soft-dome HF tweeter elements of the Absolute 4P are driven by separate power amplifiers, each delivering 100 W and each employing full thermal protection.

The cabinet features a high-definition, time-coherent design and flat on- and off-axis frequency response. A stepped input level control aids in accurate setup.

For information, contact Spirit by



Distorted Reality Library

Production directors and sound designers who work with samplers will want to know about Distorted Reality, produced by Spectrason and distributed by Ilio Entertainment of Malibu, Calif.

This is a one-of-a-kind library of sounds and textures available on audio CD or CD-ROM for Roland, SampleCell, Akai, E-mu, Ensoniq and Kurzweil samplers.

Sounds included in Distorted Reality are described in company literature as "incendiary fuzz mutations" and "a whole universe of metallic buzzes and twiddles."

The collection, produced by sound designer Eric Persing, otherwise consists of heavily processed sounds of percussion, crowd reactions and synthesized textures.

The collection was originally designed for "edge" music production, but creative radio producers can make great use of Distorted Reality. An audio CD of selected material is priced at \$99, the CD-ROM of the entire library is \$199.

For information, contact Ilio at (800) 747-4546 or circle Reader Service 79.

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Schematic/manual photocopies for five-slot Spotmaster 605 & relay box SW-5B, also remote unit itself, mdl BE-106. P Carson, Rt 32, Box 73, West Friendship MD 21794. 202-215-3885.

CD PLAYERS

Want to Sell

Technics 1200 (2), w/remotes, excel cond, \$1500/both +shpg. M

Mathis, KKSYS, POB 1488, Searcy AR 72143. 501-268-7123.

Denon 950 jingle CD PB, tracking module needs work, BO. J Randolph, Mill River Media, 7080 Lee Hwy, Radford VA 24141. 540-633-5330.

CONSOLES

Want to Sell

Auditronics Penny & Giles faders (16) for 110 or 501 consoles, great cond, \$320. D Bailey, Rock Shoppe Prod, 10027 Church Rd, Dallas TX 75238. 214-343-0879.

BE 8M250 mono 8 chnl mixer. E Lyda, Media 1, Box 8488, The Woodlands TX 77387.

Mackie 24 x 8 studio mixer, almost new, \$2400; Soundcraft Delta 8R-200, 16 x 2/1, rack mount, \$400. T Downs, 210 Cook St, Brandon FL 33511. 813-685-3740.

McMartin B-802, stereo control board, 8 chnl w/monaural meter & over half of a McMartin board w/cards, etc. \$850. M Taylor, KNEO, 10827 Hwy 86 East, Neosho MO 64850. 417-451-5636.

Opamp Labs 1604, 16 input 4 group prod audio console, needs pwr supply & some work, \$500. S Kozak, Theater Snd Std, 351 Pinewood Dr, Bay Village OH 44140. 216-871-5897.

Soundcraft Delta 14 deluxe modules, 4 dual modules, original box/manual, excel cond, \$2000. M Scharrow, Scharrow Recdg, 307 4th Ave E, Lemmon SD 57638. 605-374-3424.

Spirit Live 4 mixing console, 12x4x2, \$1450; Mackie 1604 mixer w/expander, near new cond, \$750. R Streicher, Pacific Audio-Visual Enter, 545 Cloverleaf Way, Monrovia CA 91016. 818-359-8012.

Alesis X-2 24 chnl pro mixer, 24 ch 8 group outputs stereo aux returns 40 sources, \$3800/BO, or trade for RCA 3K 5A mic, Technics TT, Stanton preamp, Langevin EQ units, J Driscoll, Voiceover America, 10440 Bloomfield St, N Hollywood CA 91602. 818-766-0491.

Harris Medalist 8 chnl stereo console, \$875; Auditronics 110-A console, whole or parts, \$500; RCA BC-7A console, \$275, as is; UREI mode one 5 chnl stereo, \$175; JBL 7510 mixer, \$250. D Lundy, Lundy Recdg & Tape Duplicators, Cumberland Gap Pkwy, Heidrick KY 40949. 606-546-6650.

Soundcraft 600, 32x16, w/patch-bay, mint, \$6950; Tascam 512, 12x8 mixer, \$750; Tascam 520, 20x8x16 mixer, \$1750; Allen & Heath SYNCON 28x24, great sound, \$8000; Ramsa 820 mixer, \$2200. W Gunn, Box 2902, Palm Springs CA 92262. 619-320-0728.

Zercom MAX-Z portable broadcast console, great condition, \$500! Call Terry, leave message, 330-836-6039.

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input/line cards. G Heidenfeldt WRGH, 2880 W Lake Rd, Wilson NY 14172, 716-751-6187.

Howe 7500 or parts, any Howe console. D Rose, KDUC, POB 432, Barstow CA 92312, 619 256-2068.

Soundworkshop 40 modules and console. A Polhemus, Excalibur Sound, 750 8th Ave, Nyny 10036 212-302-9010.

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RCA BA-46 (2) & (2) RCA BA-43 program amps, \$300, DuKane limiter 19" rack mt, \$95, D Lundy, Lundy Recdg & Tape Duplicators, Cumberland Gap Pkwy, Heidrick KY 40949, 606-546-6650

Want to Buy

Cash paid for tube compressor, amps, on air signs J Phillips, 1-800-old-mics.

RCA BA-6A: Collins 26U or 26W; WE, all models B Elliott, Showplace Studios, 347 South Salem St, Dover NJ 07801, 201-328-4400.

UREI or Teletronix LA2A, LA3A, LA4A, 1176, Gates, RCA, Collins, Altec, dbx 160/165, all types, working or not, T Coffman, POB 17203, San Diego CA 92177 619-571-5031.

Valley People 440, A Polhemus, Excalibur Sound, 750 8th Ave, Nyny 10036, 212-302-9010.

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

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Countryman TVH tie-clip mic, \$165; AKG D-140 dynamic cardioid mics (3), \$115 ea; Schoeps Collette cable KC5L w/Lemo connector & adaptor, like new cond, \$335, R Streicher, Pacific Audio-Visual Enter, 545 Cloverleaf Way, Monrovia CA 91016, 818-359-8012.

EV RE20, \$325 B Jeffries, WQOL, POB 0093, Port St Lucie FL 34985, 561-335-9300

Altec D-81, \$45; (2) EV 660, \$30 ea (2) EV 644 shotgun, \$75 ea D Lundy, Lundy Recdg & Tape Duplicators, Cumberland Gap Pkwy Heidrick KY 40949 606-546-6650

Reslo RBM T ribbon mic, new in sealed box, w matching brushed aluminum holder, factory cable & croon option, \$1500 P Carson, Rt 32, Box 73, West Friendship MD 21794 202-215-3885.

Electro Voice RE-55 cardioid Omni (2 units) with EV shock mounts, like new, rarely used, \$275 ea, one Electro Voice RE-20 without shock mounts, \$250 R Johnson, Johnson Associates, 201-387-0887.

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RCA 77 & 44, Neumann, Sennheiser, EV, Altec, Coles, T Coffman, POB 17203, San Diego CA 92177, 619-571-5031

Sennheiser ME80 shotgun mic w/power supply module, K3U, P Boone, Capitol Radio Network, POB 12800, Raleigh NC 27605, 919-890-6045.

RCA 77-DX's & 44-BX's, any other RCA ribbon mics, on-air lights, call after 3PM CST, 972-271-7625.

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Sennheiser, Neumann, AKG, many models, W Gunn, Box 2902, Palm Springs CA 92262, 619-320-0728.

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Custom 15x1 stereo switcher w remote panel, 6 wire BCD control (several), \$99.95 w/out pwr supply, \$149.95 w/+25' cable, B Eddy, WRRR, POB 374, St Marys WV 26170, 304-684-3400.

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Magna-Tech 92B varispeed sync PB & extra tube, CRC 2Bpu, \$2000, G Morell, United Recdg, 681 Fifth Ave, Nyny 10022, 212-751-0859.

RCA open wire transmission line, insulators/brackets (60), sell as whole or any quantity, G Heidenfeldt, WRGH, 2880 W Lake Rd, Wilson NY 14172, 716-751-6187.

Altec 9880 A cinema filter 19" rack mt, \$65; Acinova type 9205 tape degauser will handle 2" tape, \$75; roll of Columbia audio cable 27 pr 2 line & shield 150', D Lundy, Lundy Recdg & Tape Duplicators, Cumberland Gap Pkwy, Heidrick KY 40949, 606-546-6650.

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KY-2700, KY-1900 Sony DXC M3K; Chyron RGU-2; Audio Cons BE 5M150, much more, sell as lot only, for info or complete list/cond call CE at 304-324-0667

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Tascam MTS-1000 midiizer, SMPTE synchronizer for Tascam decks, locks SMPTE and MTC w/serial cable & docs, \$500/BO, C Yengst, Zerrow House Prod, 59A Middlesex Village, Middlesex NJ 08846, 908-560-5981.

Uninterruptible pwr system (UPS), Excide electronics Powerware, 6 KVA w/extra battery side car, deluxe digital front panel, comm package, still under warranty, many extras, \$3500, P Appleson, Appleson Studios, 757 SE 17th St Causeway #358, Ft Lauderdale FL 33318, 954-587-7900.

Want to Buy

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RECORDERS

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Roland V5-880 HD digital studio workstation w/V5-8F1 expansion board, 65 trks, \$1999, V Chaparro, WAYL, 545 Moutlare Wells Rd, St Augustine FL 32086, 904-829-9200.

Russ Lang RL600 cabinetry for Otari or Tascam rack mount decks, great cond, \$200, D Bailey, Rock Shoppe Prod, 10027 Church Rd, Dallas TX 75238, 214-343-0879

Scully 280 2 trk, clean, works gd, manual, \$200 S Bogart, 9 Twin Lakes Ct, Arlington TX 26006 817-467-0158.

Sony PCM 501 ES digital processor for use w VCR to record digital audio in F-1 format, \$250 P Cibley, Cibley Music, POB 767 Murray Hill Sta, Nyny 10156 212-532 2980

Tascam 22-2, rack ears, manual, etc, excel cond, \$450 M Scharlow, Scharlow Recdg, 307 4th Ave E, Lemmon SD 57638, 605-374-3424.

Tascam 234 4 trk dbx prof, like new, several avail, \$300 BO: Revox A77 bdct prof grade, BO, P Wahl WWIB, Hwy 53, Chippewa Falls WI 54729, 715-723-1037.

Tascam DA-88 w new heads, excel cond, SY-88 sync card, \$3000, T Downs, 210 Cook St, Brandon FL 33511, 813-685-3740.

Tascam Teac W-502R dbl auto reverse cassette deck, 19" rack mounting, immaculate, \$225, Marantz PMD 360 prof portable stereo, 3 heads, excel cond, 12V battery powered, \$250; Marantz PMD220 3 head mono portable, immaculate, 12V auto battery powered, \$250, S Lawson, KAK Prod, 928 Hyland Dr, Santa Rosa CA 95404, 707-528-4055.

Crown CX-822 open reel, all books, remote, plus rare factory Trac-Sync module & road case/covers, \$600, P Carson, Rt 32, Box 73, West Friendship MD 21794, 202-215-3885.

RCA RT-21 r-r (2), \$175 ea, Scully 280 r-r, \$150; Magnecorder PT-6 r-r, \$125; Magnecorder PT-6 elec, \$75 D Lundy, Lundy Recdg & Tape Duplicators, Cumberland Gap Pkwy, Heidrick KY 40949 606-546-6650.

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universal TT controller, gd cond; Technics SP-10 TT w/obisidian base & tonearm, excel cond, \$500; Gates CB-77 TT, fair cond, no tonearm, \$50. F Morton, KMGZ, Lawton OK, 405-250-4464.

Stanton D5107A (4) & D5107AL styli, \$8 ea +shpg. Dr Rogosky, WTSR, Kendall Hall, The College of NJ, Trenton NJ 08650. 609-771-2450.

Technics SP-10 quartz control w/tone arm, cartridge (2), BO. P Wahl, WWIB, Hwy 53, Chippewa Falls WI 54729. 715-723-1037.

Want to Buy

MicroTrak 303 head & connector assembly #75932. F Hollon, WAHI, Rt 1 Box 72, Plymouth IL 62367. 217-392-2340.

Technics SP-15 TT w/w arms. J Hopkins, Sunflower Studios, 4312 W 110th St, Leawood KS 66211. 913-491-3480.

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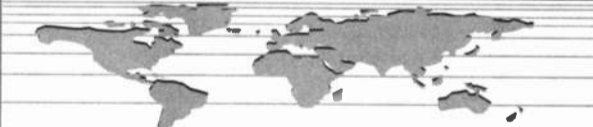
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- 3CW20,000H3
- 3CW20,000H7
- 3CW30,000H3
- 4CX250B
- 4CX250BC
- 4CX250BM
- 4CX250BT
- 4CX250R
- 4CX350A
- 4CX350AC
- 4CX400A
- 4CX800A
- 4CPX800A
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- 4CX1600B
- 4CX3500A
- 4CX5000A
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- AEL 12KD 12.0kW FM amplifier. Does not include an exciter. \$5,940.00.
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Cunningham, KEOR, Rt 2 Box 113B, Stonewall OK 74871. 405-265-4496.

Gates BC-250GY on 1340, as is, \$500 or checked out, \$1000; HP dist meter HP330B, \$150. G Kenny, KCL-TV, POB 932, Neosho MO 64850. 417-451-1440.

Harris 3.5 kW FM, MX 15 exciter, excel cond, \$15,000. M Wodlinger, Wodlinger Intl LC, 3355 Tamiami

Trail N. Naples FL 34103. 941-262-1118.

Marti SCG-8H subcarrier gen, excel cond. several avail. BO P Wah1. WWIB. Hwy 53. Chippewa Falls WI 54729. 715-723-1037.

QEI 1995, Quantum 2.4 kW solid state FM w/300E exciter, 2 yrs old, like new. G Harris, WCDW, 776 Conklin Rd, Binghamton NY 13903. 607-772-1005.

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20 KW FM 1977	RCA BTF 20E1	10 KW AM 1978	Continental 316F
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Broadcast Engineer: Two FM, two directional AM stations, two pending FM construction permits. 5 years broadcast experience in studio, computer and related facility construction and maintenance minimum requirement. Send resume to: Michael Tracy, Tracy Broadcasting Corporation, P.O. Box 532, Scottsbluff, Nebraska 69363-0532.

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006	028	050	072	094	116	138	160	182	204
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008	030	052	074	096	118	140	162	184	206
009	031	053	075	097	119	141	163	185	207
010	032	054	076	098	120	142	164	186	208
011	033	055	077	099	121	143	165	187	209
012	034	056	078	100	122	144	166	188	210
013	035	057	079	101	123	145	167	189	211
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015	037	059	081	103	125	147	169	191	213
016	038	060	082	104	126	148	170	192	214
017	039	061	083	105	127	149	171	193	215
018	040	062	084	106	128	150	172	194	216
019	041	063	085	107	129	151	173	195	217
020	042	064	086	108	130	152	174	196	218
021	043	065	087	109	131	153	175	197	219
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R-16 Console S/N 22557 delivered March 1995
SP-5 Console S/N 22593 delivered April 1995

1995 Academy of Country Music Award
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Wheatstone Model A-6000 Audio Console shown

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World Radio History