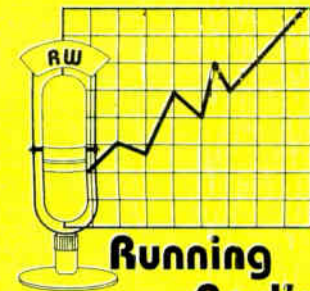


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RadioWorld®



**Running
Radio**
See pp. 9-22

Vol 18, No 17

Radio's Best Read Newspaper

August 24, 1994

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by Jack Layton

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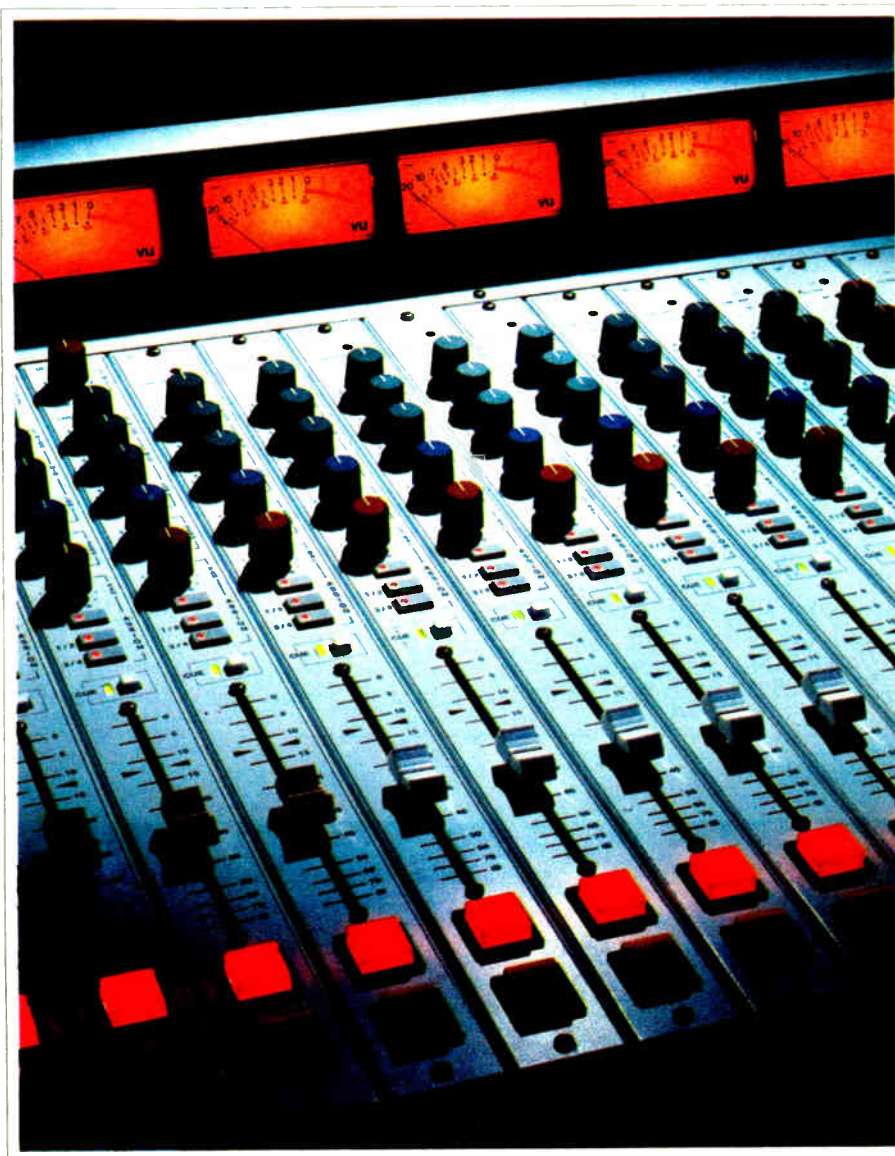
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Just R I G H T !



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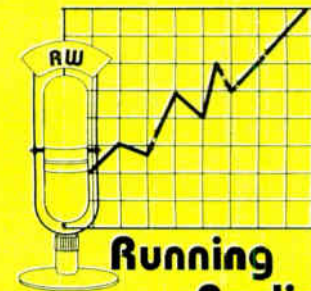
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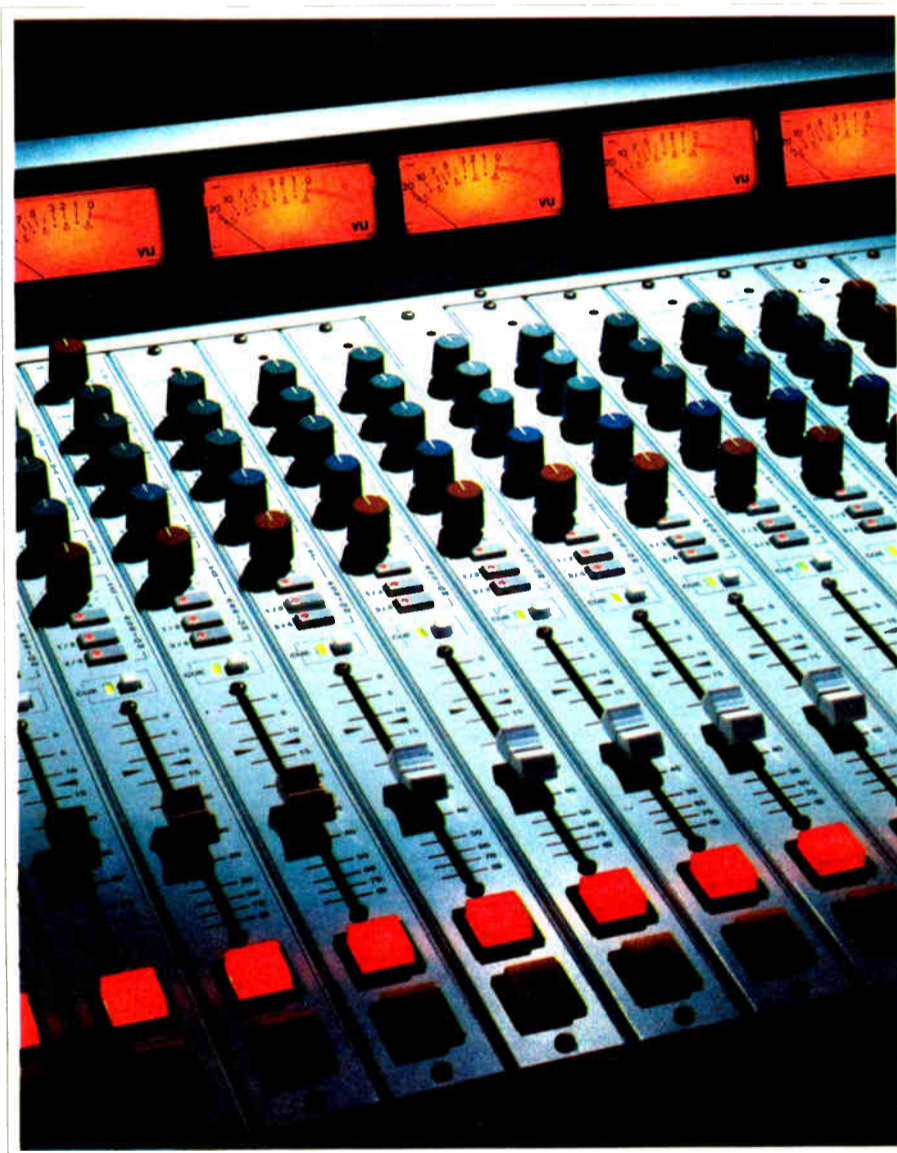
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The EIA said more than 60 percent of those polled said they would be interested in buying a car receiver with RDS. The poll also revealed that 60 percent of the respondents expressed interest in RDS' potential to provide instant traffic alerts and emergency alerts, and its ability to provide format search, song title and artist information.

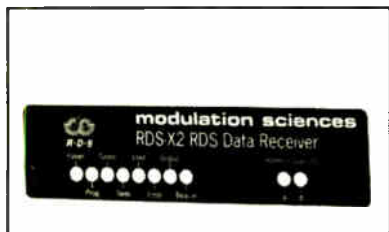
Wireworks Celebrate 20th Year Of Operation

HILLSIDE, N.J. The Wireworks Corp. recently celebrated its 20th year of operations. The company, established in 1974, manufactures audio, video and controlling cable systems. Products include made-to-order panels, transformer-isolated mic splitters, audio, video, audio/video, control, and speaker cables.

Wireworks President Gerald Krulewicz said: "In 20 years time, we've seen many audio cabling companies come and go... Wireworks remains."

ModSci Introduces RDS-X Data Receiver

SOMERSET, N.J. Modulation Sciences has introduced its RDS-X data receiver that allows stations to monitor data services and



operate remote control devices while operating station RDS functions such as text messages and alerts.

The RDS-X lets a station use the 57 kHz RDS subcarrier for its own applications, such as program identification and radio text, and at the same time enable multiple, separate data applications that can enhance station revenues, according to Modulation Sciences. These reception and decode capabilities include illumination of billboards, mobile displays, weather displays, song information, and sports scores.

Narrow-band Nets FCC \$617 Million

by Randy Sukow

WASHINGTON The FCC sold ten nationwide, narrow-band personal communications service (PCS) licenses to the highest bidders last month and walked away with \$617 million, or about 15 times more than experts predicted.

The first auction of electromagnetic spectrum in the United States, held July 25-29 at the Omni-Shorham Hotel in Washington, was successful beyond the best expectations of congressional proponents who pushed to replace slower and more costly lotteries and comparative hearings for some frequency assignments.

"The truth is, we may have hit the 'communicopia,'" House Telecommunications Subcommittee Chairman Edward Markey (D-Mass.) said. "Auctioning off the system is going to compare very favorably to other options."

FCC officials said prospective bidders in future PCS spectrum auctions planned for later this year should not be discouraged by the huge numbers generated by the first auction.

Bids for local and regional narrow-band PCS licenses, which are most likely to attract bidders from the radio industry, will probably not be significantly affected by the prices paid for national PCS licenses, they said.

Hot property

Bidding was so hot that the auction was extended two days beyond the three days originally scheduled by the FCC. It took 47 rounds of bids before the winners were sorted out of the 29 competing companies.

The total of all winning bids was \$617,006,674. The winning bids ranged from \$80 million for each of the five 100 kHz licenses (awarded in two sections of 50 kHz) to \$37 million and \$38 million respectively for two 50 kHz unpaired licenses.

One company, Paging Network of Virginia Inc., bid a total of \$197 million to win the FCC's limit of three licenses (250 kHz total). KDM Messaging Co. bid \$160 million for two licenses (200 kHz) and Nationwide Wireless Network Corp. bid \$127.5 million for two licenses (162.5 kHz). (An eleventh license had already been awarded to Mobile Telecommunications Technologies Corp. under the FCC's pioneer preference policy.)

About an hour into the bidding on the first day of the auction, Markey was on hand to announce the top bidders after the first round. An audible, collective gasp went up among press and interested

observers not taking part in the auction when Markey announced that the opening bid for the first license was \$20 million.

The opening-round total for all 10 licenses was \$103 million, which already represented twice the amount some experts expected to yield from the entire national, narrow-band

expected that each of the licenses would sell for \$3 million-\$4 million.

Pepper speculated that bids were high because they were for the only national PCS licenses that will be available and because there was such a limited supply of them.

Future auctions

The narrow-band PCS licenses up for bids last week were for portions of the 900 MHz band to be used for advanced paging and wireless data transmission applications on a nationwide basis.

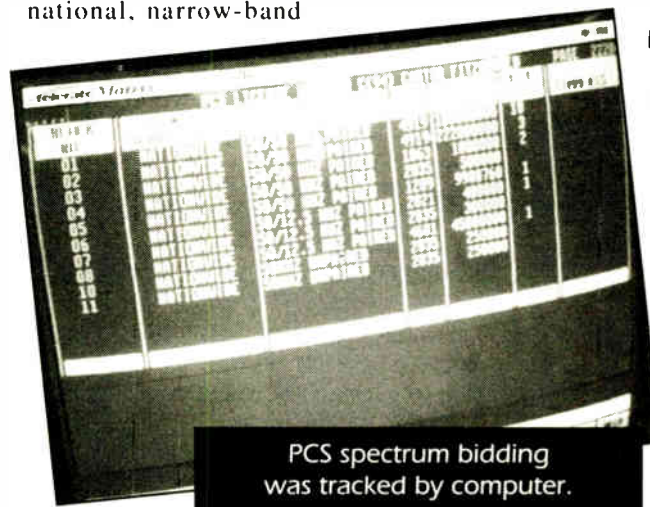
Future PCS auctions are expected to be held later this year for over 3,000 local and regional narrow-band licenses and for hundreds of broad-band licenses.

Broad-band PCS will be

capable of delivering paging and data, as well as voice, video and other types of service that are also expected to be delivered over the wired "information superhighway." Narrow-band PCS is expected to be less costly and easier to implement quickly.

Radio broadcasters interested in bidding may be most interested in the local and regional narrow-band auctions, which

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PCS auction. Moments before the announcement, one FCC official said he believed the first-round bids would range between \$3,000 and \$5,000.

Following the quick start, Robert Pepper, chief of the FCC's Office of Plans and Policy, said the commission never really put much confidence in the preliminary predictions because they were based on inputs from potential bidders who had an incentive to deflate the estimates. Some



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NCAA football photo courtesy of Host Communications

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Reborn Amid the Great Rockies

WASHINGTON In the closing pages of Twain's *Huckleberry Finn*, the quintessential American hero is set to head west, to the territories, and find his way and perhaps fame and fortune. I recently returned from a visit out West and am ashamed to admit I had forgotten how lovely it is out there.



It always does me good, centered on the East Coast as I am, to head for the Great Rocky Mountains and see what in Huck's time was still unexploited country, rich with promise. And though it may not be uncharted and unexploited country anymore, the West has certainly preserved its wild and dangerous side (the fires raging out of control every year prove that). But it has been tamed too.

And nestled among the extravagant vistas of the Wasatch Mountain Range, not far from Salt Lake City exists Park City, sports mecca for the U.S. Ski Team and playground of the rich and famous. Of course, real people live there too, they just don't always hang out with the *glitterati*.

In your own radio industry, Gentner Communications has done its share to put Salt Lake City on the map. My trip out West was to visit with them and find out what they've been up to lately.

The folks at Gentner have been up to a lot, it seems. The early part of this year was a time of soul-searching for the company—and cleaning house. And clean house they did.

According to Russ Gentner, "We got rid of the bean counters." With the help of a management firm, the company took a long hard look at how it did business, how it treated its customers, and how it

treated its employees.

More recently, the company invited a group of your peers, some of the best radio people in the business, to participate in a focus group, hence the gathering at Park City. The company plans to hold more focus groups, to keep it sharply focused on the needs of the marketplace.

I was impressed with the energy and commitment evident in every Gentner employee. It was obvious to me (and to everyone present) that Gentner means to do it right. The mission the company has set for itself is to "amaze the customers and exceed their expectations." An important part of Gentner's business is audio conferencing. Or as they put it, "Audio conferencing is just another word for broadcast talk shows."

As you may recall, Gentner left the digital storage business last year, when it sold the Audisk line. The focus is now on the broadcast consumer. The bureaucratic



The folks at Gentner (below) rolled out the red carpet amidst the fierce beauty of the Great Rocky Mountains.



structure is gone, and driving the company's renewal is the customer.

Gentner's drive includes internal success as well, or taking care of its own. When all was said and done after the house-cleaning, Gentner had analyzed each and every person's job and performance, and then took steps to make sure everyone was rewarded for the work they did. Russ Gentner summed it up nicely when he

said: "If the customers and the associates are happy, shareholders are taken care of."

Most importantly, Gentner has one big ear tuned into you. They want your input on what you want and need. They are looking for a chance to amaze you.

★ ★ ★

Good news from the trenches, RW's own Al Peterson's WNNK-FM in Harrisburg, Pa., made the list of station's nominated for a Marconi Radio Award in the CHR category. "WINK 104" is up against stations in Wisconsin, South Carolina and Boston. WINK 104 is doing something right. In the last year, it has received both a Bobby Poe and an Associated Press Award. Congratulations and good luck.

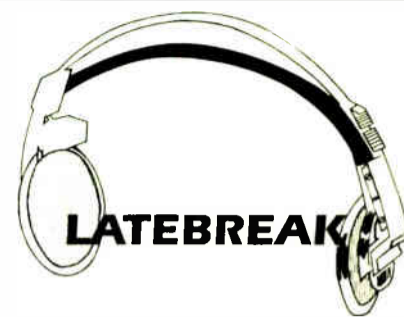
★ ★ ★

Arbitron's efforts to improve response rates for its radio surveys has the company cheering. The first 195 markets of the Spring 1994 radio survey will post a 4.2

point response rate gain over the equivalent Spring 1993 response rates. The average metro response rate for the 195 markets for the Spring 1994 survey is 42.4 percent—an increase of 11 percent over

the Spring 1993 response of 38 percent.

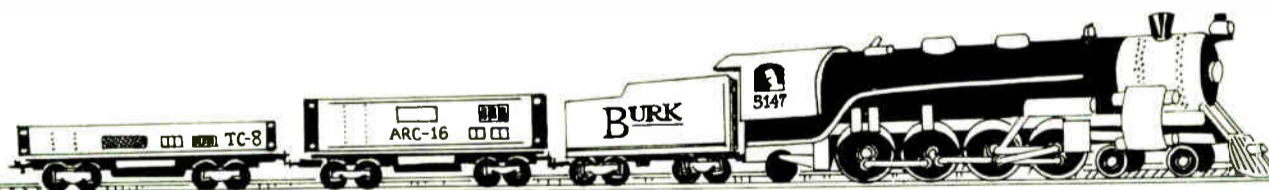
Radio station managers and program directors should be heartened by Arbitron's efforts in this area.



Svetlana Electron Devices appointed George Badger president. Svetlana Electron Devices Inc. is the U.S.-based sales and marketing partner of the joint venture with Svetlana Electron Devices Manufacturing Corp. based in Saint Petersburg, Russia. Badger joined Svetlana in July of 1992 as vice president and director of marketing for the U.S. and world markets outside of Russia.

Badger began his career with Eitel McCullough Inc. (EIMAC), where he served in several engineering and marketing capacities for power grid and microwave tubes. He holds seven patents and has published technical papers on Klystrons, Klystrodes and other RF components for numerous organizations. When EIMAC merged with Varian Associates, he held the positions of marketing manager for the EIMAC division, the industrial microwave operation and traveling wave tube division. He was recently elected Fellow in the Radio Club of America.

As president of Svetlana, Badger will work to introduce tube types widely used in Russia but new to Western equipment designers, as well as market exact replacement, plug-compatible Western tube types. He will oversee the expansion of Svetlana into the microwave tube market with the products of ISTOK, Russia's largest microwave tube engineering and manufacturing complex.



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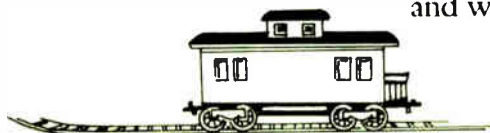
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Not Ready for Digital

Dear RW,

Recently, while reading the July 13 issue, I could not help but notice all of the user guide materials on digital hard disk-based storage, automation and editors. Reading this information takes me back to a recent conversation with our stations' operations manager.

We were discussing the future of adapting digital storage and playback for on-air operations. Although we are starting to use digital editing systems, some of the questions we found ourselves asking should be asked by anyone thinking of making the jump to digital storage technology.

Questions like: Is a hard disk-based systems going to make any difference in the quality of the product delivered to our listeners? Answer: No. We make it a point to keep our tape cart machines in top shape. Listeners would not notice a difference.

Would digital storage systems save us money in tape costs? Answer: Not really. We purchase an average of 500 to 1,000 tape carts per year. On the basis of an average cost of \$3.00 per cart, an AM-FM combo could purchase a lot of carts over the cost of a big hard drive system.

Will a hard disk-based system increase

reliability? Answer: No way. If a tape cart machine goes down in any of our on-air studios, there are always five more that are still in operation. I have heard other station engineers talk of hard disk systems with error messages at 2 a.m., on Monday morning. I do not know about you, but the prospect is not very appealing to me. Or when your network server, or studio PC goes down when your station's inventory is sold out.

The last question that should be asked is: Will changing to a hard disk storage system increase profits or listeners? Answer: Frankly, in major markets, I cannot see how.

Don't get me wrong. Small and medium market stations that depend on satellite-delivered programming or need cost-effective automation can benefit greatly from this technology, but the more complex your operation, the less hard disk systems are practical. Compact discs have proven themselves for reliable music reproduction, but I would find it unsettling to rely on a spinning sealed disk that spins 24 hours a day to deliver my station's commercials time after time. But perhaps someday...

Kelly D. Alford
Director of Technical Operations
KJR-AM-FM Seattle

PCS Is Radio Opportunity

The FCC's auction of 10 nationwide, narrow-band personal communications service (PCS) licenses to the highest bidders garnered the agency \$617 million—roughly 15 times more than predicted by the experts.

The first auction of electromagnetic spectrum in U.S. history was successful beyond the best expectations of congressional proponents. Now, if the winning bidders deliver the full amount, the FCC could suddenly find itself in a position to shore up its overworked staff and better serve the industries it regulates. Specifically, it would be appropriate to see radio business taken care of, where matters such as migrating the many hopefuls to the expanded AM band or the revamping of the Emergency Broadcast System (which has been languishing in political limbo) can be finished once and for all.

Encouraging as the sizeable cache this first auction brought in may have been for the FCC, the huge price tags should not discourage anyone from participating in future auctions planned for later this year.

Radio broadcasters interested in bidding may be most interested in the local and regional narrow-band auctions, which could provide an opportunity to supplement future data transmission services on FM subcarriers with vastly increased capacity and interactive capability.

Bids for local and regional narrow-band PCS licenses will probably not be significantly affected by the prices paid for national PCS licenses. Auctions are to be held later this year for over 3,000 local and regional narrow-band licenses and for hundreds of broadband licenses.

Broadband PCS will be capable of delivering paging and data, as well as voice, video and other types of services that are expected to be delivered over the wired "information superhighway."

There can be no doubt that the radio business, driven largely by entrepreneurs, will create the services it needs to offer to the public and, thus, develop lucrative revenue streams for itself along the way. The PCS auctions can afford many such an opportunity. Keep a close watch and keep those checkbooks ready.

-RW

GUEST EDITORIAL

FCC on Track with EEO

by David Honig

WASHINGTON I have the best job in radio: I challenge license renewal applications. My job is to convince the FCC to take your license away if you discriminate.

When I file a petition to deny, I am usually doing the station owner a favor. I have given him early warning that his station is being run by Larry, Curly and Moe. Sloth, indifference, and incompetence usually go hand in hand with

unequal opportunity. I cannot count the stations I have challenged that have a CP for an upgrade, but cannot use it because they forgot to budget for the new tower. Yet they blame their problems on minorities—who listen to radio more than anyone else in the country.

Equal Employment Opportunity (EEO) compliance is simple. First, you have to make a conscious effort to treat everyone the same. Second, you have to go out of your way to seek out good people who might not know they have a genuine chance to be hired if they apply.

A sizeable minority of white Americans do not endorse the concept of affirmative action. Sometimes it is because they really do not want minorities to get the same breaks they got, but often it is because they simply do not understand the concept. They are hoodwinked by political opportunists eager to tap into the well-spring of race prejudice still residing in a sizeable number of voters.

If you do not understand the reasons for affirmative action, you will not do it very well. Then the FCC will fine you, and you will become resentful. A second renewal term will go by, you will not comply, and this time the FCC will pull your license. To help you avoid this, let me try to explain affirmative action.

Affirmative action is the conscious use of pro-active procedures to implement equal opportunity. It is not "quotas." You do not have to hire any particular number of people.

Of course the FCC is not stupid, so it realizes that when your market is 20 percent minority, and there were only two minorities among the number of people you hired during the license term, you might be discriminating.

But that does not mean that there is a quota of 20 or even of three. It just means that you should take a close look to be sure that nobody on your staff—intentionally or unintentionally—is treating people unfairly.

How can you be sure everyone is treated fairly? Start by asking yourself these questions:

- Are minorities less likely than whites to work for low pay? Of course not. Minorities have survived generations of being paid less (or nothing) for the same work others did. They would be happy to get equal pay.
- Would minorities feel uncomfortable working at a country & western station? Never. Radio professionals do not care what kind of music you play. They do not assume that everyone who runs a country station wears a sheet.
- Would your listeners turn to another station if an announcer did not sound like an Iowan? If the "right voice" really mattered, Peter Jennings, Dan Rather and Barbara Walters could not get work. Having the "right voice" is often just a code for discrimination.
- Are qualified minorities hard to find? Only if you do not try. Hundreds of well-trained minorities are ready, willing and able to work for you. To find them, do not just send form letters to the Urban League, community service agencies, job banks and Black colleges. Treat them like you would treat new sales clients. Invite them for sandwiches, give them the tour, find out how you can meet their needs. They will come through for you.

RW asked me to comment on whether the FCC is headed in the right direction with EEO. You bet it is, and it is about time.

The fines are going up, but if you are a fair employer, why should you care what your competitor has to pay the government? And if bad actors lose their licenses, good riddance.

Here are three reasons why you should endorse equal opportunity in radio.

First, damn it, it is the American Way. We did not build the best broadcasting systems in the world by not standing for something.

Second, equal opportunity is fair to you. Look at how many millions the phone companies paid for PCS and IDVS licenses a few weeks ago. There is a reason Congress did not charge you for your station's license: You are expected to provide public service programming and equal opportunity. Would you rather pay the U.S. Treasury the full value of the spectrum you use?

Third, equal opportunity is good business. Discrimination costs the economy more than \$20 billion a year. It is inefficient because labor, like any commodity, costs more when its supply is artificially restricted.

In just five or 10 years, if we all work at it, we can make broadcasting the second industry in the country (after the military) for which race prejudice is largely a historical anachronism.

Someone gave you a chance. Pay it back. Ask yourself "what can I do to help minorities become broadcasters?" Then do it.

□ □ □

David Honig is a communications attorney in private practice, specializing in broadcast litigation. Among his clients are the two largest civil rights organizations in the U.S., the NAACP and the League of United Latin American Citizens. He also serves as the executive director of the Minority Media Ownership and Employment Council. His law office is located at 3636 16th St., N.W., No. B-863, Washington, DC 20010; telephone: 202-332-7005; fax: 202-332-7511.

CORRECTION

The author of the story on production techniques for radio ads in the July 27 "Running Radio" section gave the wrong title for Orson Welles' classic "War of the Worlds" broadcast. Adolf Hitler's name is misspelled in the same article.

Radio World

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World Radio History

Old Antenna Makes Way for New at KDKA

► continued from page 1

tower was five-feet six-inches on a face. One of its unusual characteristics was that it had only two sets of guy wires. Both were terminated in the same anchors approximately 450 feet from the base. More than 150 feet of tower extended above the top set of guys.

The tower was originally installed at the KDKA transmitter plant in Saxonburg, Pa., in 1937. It was dismantled and moved to its present site in Allison Park, Pa.—about 12 miles north of Pittsburgh—in 1939. It has served as the main antenna system for America's first licensed commercial broadcast station since that time.

Start to finish

One of the notables on the scene watching as this piece of history bit the dust was Ed Cooper, a retired KDKA-TV engineer. He was at the dedication ceremony on Oct. 30, 1937, when the tower was first put into service at the Saxonburg site. Ed recalls that a local newspaper reported 25,000 people to be on the site for that event.

The Franklin antenna was electrically 270 degrees, 3/4 wavelength in height. The radiating portion of the system was 360 feet of tower sitting on the base insulator and another 360 feet of tower setting on insulators above it. A three-inch coax ran from the transmitter building to the tuning house at the base of the tower.

The coupling network converted the 50 ohm unbalanced feed to a balanced two conductor open wire transmission line constructed from 1-inch copper tubing. It ran up the inside of the structure to the feed point at its center. AC power for the tower lights was coupled to the open wire line in the tuning house through O-ring transformers. Wiring for the beacons and side lights ran inside the tubing. The system produced a theoretical ground wave field intensity of 297 mV/m per kilowatt at one mile.

What its original designers back in the 1930s failed to recognize was the considerable amount of energy radiated at high angles. During the daytime this caused no problems. However, during hours of darkness, a portion of this energy was



The 57-year old tower toppled in a few seconds.

sometimes reflected back into the ground wave coverage area of the station, causing severe selective fading in as close as 30 miles to the antenna.

This phenomena was especially Friday, too late to be cleared, and the delivery had to wait until Monday for customs clearance.

After this 48-hour additional delay, the transmitter was installed in the trailer that had been placed on the property. It was nine days after the fire that KPAY AM returned to the air. KPAY normally is a 10 kW, three-tower directional station. Until complete rebuilding and installation of a phasing network, KPAY will operate non-directional with 2500W using the center tower only.

KPAY plans to bulldoze the burned building and rebuild on the same site after testing for spilled PCBs at the site. The fire department noted the possibility of a spill from the PCB capacitors in the old burned-out transmitter, and testing for PCB is now required before the building can be razed.

prevalent during periods of low sunspot activity when ionospheric conditions are most favorable for the reflection of AM broadcast band signals.

A new 720-foot tower will soon be erected on the site. It will be sectionalized and fed approximately 240 feet from the base insulator. Coax will run from the transmitter building up to the feed point where the matching network will be located. The new design was chosen to eliminate the troublesome high-angle radiation while radiating high values of field intensity along the ground.

In the interim, the backup antenna, a 240-foot tower located about 1,000 feet from the now-removed structure, will be used to maintain service to the Pittsburgh market.

Jack Layton is the former chief engineer of KDKA. He now owns Layton Technical Service, a firm specializing in broadcast facility inspections and construction. In addition, he is a free-lance writer. He can be reached at 412-942-4054.

Fire Sweeps KPAY Studios

by Marvin Collins

CHICO, Calif. An attic fire destroyed the contents and building of stations KPAY AM/FM, Chico, Calif., July 11, silencing the AM station for nine days and the FM for four days. KPAY is owned by Craig McCoy, who also owns KPNW in Eugene, Ore., and KCCY in Pueblo, Colo.

When employees arrived at the McCoy Broadcasting studio/AM transmitter/office building at 2654 Cramer Lane on Monday morning July 11, they smelled smoke. At first they thought it was the coffee pot, which was then turned off. But soon thereafter, they saw smoke coming from the ceiling. The fire department was called and the building evacuated. Shortly after the evacuation, the flames engulfed the building and the transmitters went off the air. Nearly everything was lost: computers, the new phone system and the AM transmitter.

The fire apparently began in the building's attic, likely the result of old wiring: the building was constructed in 1948. Damage was extensive, estimated in the hundreds of thousands of dollars, because firefighters' efforts were hampered by a recently installed seamless metal roof put in place to keep the rain out.

In the attic

Firefighters, who fought the blaze for three hours, had problems getting to all the space in the attic due to the metal roof, which also helped transfer the heat to other parts of the building. Firefighters spent more than three hours putting out the fire.

Local broadcaster Jeff Kragel, owner of KPPL, helped get KPAY back on the air as soon as possible. KPAY was able to relocate to nearby studios one-half mile away, recently vacated by KPPL. With the use of the vacant studio building, KPAY FM was able to return to the air 95 hours after the fire. The FM transmitter was located 16 miles away and was

not harmed by the fire.

KPAY AM depends on satellite delivery for some of its talk programming. A local satellite dealer was employed to install a dish antenna at the new temporary studio.

At press time in late July, Chief Engineer Dan Butner said that temporary power was rigged for tower lighting, and two days after the fire the tower lights for KPAY AM were illuminated once more. A trailer was placed on the property close to the burned out building. A solid state transmitter was ordered from Nautel. Nautel promptly made an emergency shipment of the transmitter from Halifax, Nova Scotia. Unfortunately, Butner said, the shipment arrived at customs on

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Unusual Remote from KFI/KOST

by Marvin Collins

MUNICH, Germany Many readers have been involved with the typical remote broadcasts from supermarkets, car dealers, etc., as I have. When the KFI programming department started planning for remote broadcasts from Munich, Germany, and Krakow, Poland, I knew I would be getting involved with an interesting project.

It became even more interesting when I read Gary Lycan's article in the Radio section of the Orange County, California Register, about what the remote was about. The headline read: "Host Taking Skinheads to Auschwitz."

According to the news story, KFI's Bill Handel morning personality was planning to visit the site of his grandparents who were killed at the hands of the Nazis. The article said: "He's taking two white supremacists (some are known as "skinheads") to Germany and Poland to show them first hand the horrors of genocide and to see if it will strike any humanity in them."

Challenging prejudice

Handel's guests were self-proclaimed "skinheads," usually described as young white males who blame ethnic and other minority populations for the society's problems. Neither of KFI's two American

guests said they were affiliated with any white supremacist organization, although one of the young men's father is a former Ku Klux Klan leader.

The remote broadcasts were intended to show that although the white supremacy movement in the U.S. may be negligible so far, such activity could lead to the kind of violence that swept Germany before and during World War II. In Germany, the neo-White supremacist movement is much more active than in the U.S.

While waiting for our flight on April 11, 1994, we met the two "skinhead" guests. They appeared not to fit the stereotype. They seemed clean-cut and well behaved. Our party included the "skinheads," Bill Handel and KFI Promotions Director Bill Lewis.

Gaining access

Almost 11 hours later, when our plane landed in Frankfurt, Germany, we realized our two "skinhead" guests were missing. My wife Herta, our translator, went to work on the telephone to find out what had happened.

She finally made telephone contact with the head of Frankfurt Airport security, who would only say that the two "skinheads" would not be permitted to enter Germany. The two were sent back on the next available flight.

The first broadcast was planned from the Munich Press Club on Wednesday, April 13. However, our association with the "skinheads" resulted in all of us mistakenly being branded as fascists. Munich Press Club officials were no longer comfortable with KFI doing a remote broadcast from that facility. In order to avoid any embarrassment to the Munich Press Club, we had to make a last minute change in our broadcast location—to the Munich City Hotel.

The technicians at the Munich City Hilton Hotel did a great job of making

telephone lines appear from nowhere for our use, but they were not familiar with the RJ11 telephone plugs and jacks. At first, I was at a loss as to how to tell them I wanted an RJ11 connector on all the lines. Finally, in my remote equipment, I located a cable with RJ11 connectors. When I showed the connectors to the technicians, they immediately responded, "Oh! A western plug." Moments later they were back with "western plug" adapters.

Technical woes

The start time for the broadcast arrived and, due to technical difficulties, we were forced to start without use of our three-line frequency extender.

The show turned out to be a debate



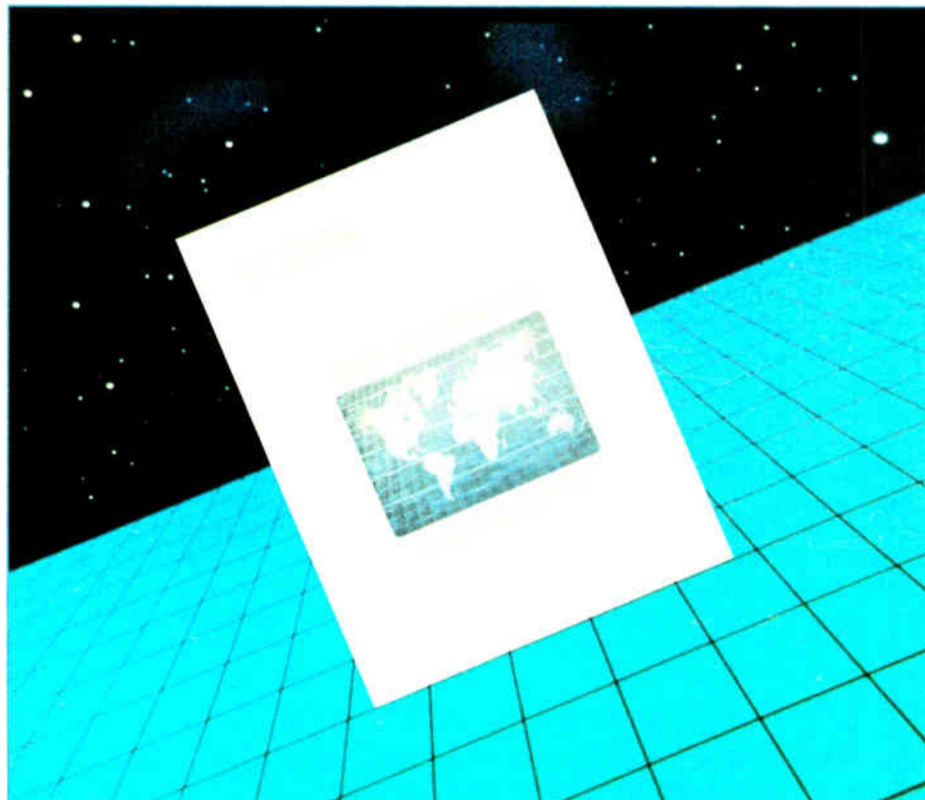
Bill Handel, KFI morning show host, on the air from phone booth No. 4 in Telekomunikacja Polska Centrum Warsaw, Poland.

between Bill Handel and Neo-Nazi Ewald Althans. The debate was so intense that listeners probably never really cared that our audio was only telephone quality.

The next morning, Thursday, April 14, was our travel day to Krakow, Poland where we planned the second remote. Upon arrival in Warsaw, I handed my passport to the guard behind the counter. He looked at it, then looked at something on the desk and, without saying a word, took my passport to a nearby office. The rest of our group experienced the same procedure.

We were given a very stern warning that "fascist broadcasts" were not allowed in Poland. Apparently, our association with the two "skinheads" had given us a fascist reputation here, too. The official, however, seemed to be appeased by Bill

continued on page 32 ►



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Tejano Beat Flavors Radio Waves

by Alan Haber

WASHINGTON Dig that crazy beat, man, 'cause it's comin' your way! It's Tejano, meaning Texan, and its alluring mix of styles and artists is close to ruling the airwaves in Texas, starting to make a splash in New Mexico and on its way to gaining acceptance in other areas of the country.

You might say the Tejano sound, also referred to as Tex-Mex, is a 20-30-year-old overnight success because that's about how long ago it started. But exactly what it

number," according to Gomez—and conjunto bands, which play rancheras and cumbias, and are centered around the bajo sexto (a kind of 12-string guitar), bass, drums, accordion, and augmented and seasoned by keyboards.

Tejano acts like EMI Latin artists Selena, who's also been signed to sister label SBK for a pop album; Emilio Navaira, who's negotiating to record a country album; and David Lee Garza y Los Musicales are helping to create excitement at Tejano stations. Add acts like Manny Music artist Shelly Laras and Sony Discos' La Mafia to

something for old people. No one was speaking the language anymore. We're noticing more kids in high school that feel 'I'm Hispanic, why should I have to listen to rock music... This is my heritage.'"

And KXTN's Rios remembered thinking that his station would have to pull in young people. "Our young culture people...that are Hispanics, (it's) in their blood, they love the music..." These are the same young people who viewed the Spanish stations as ones their parents and grandmothers would listen to. The solution for the station was to come in "with a sound like general market with stingers."

Sony Discos' Rosario thinks the bilingual aspect of Tejano radio is what "attracts most of the listeners. You know, we understand both English and Spanish, and it's real hip to listen to a station (that speaks both)." He added that "Your English listener will listen to the music and like it and get hooked on it."

Hermilo Ojeda, program director of 3,000-

watt KLMA-FM in Hobbs, N.M., said "What really makes this format is that we talk in English...It's bilingual...It's just gaining more and more popularity."

While primarily relegated to Texas, Tejano is now moving into other areas of the country. The infectious sound, in the form of Selena, is even being played in Los Angeles and Mexico City, according to James Rivas, program director of KOHT, who calls the singer "the Madonna of Tejano."

Across borders

Tejano is picking up steam in New Mexico and finding its way into areas of the country not normally associated with the format. For example, duopoly partners WAOS(AM) in Atlanta and WXEM(AM) in nearby Buford play about one or two Tejano songs an hour within their contemporary regional format.

Program Director Jose A. Mebellin said that although the stations play Tejano artists "that are doing well in Mexico," such as Selena and La Mafia, "it would be hard to have a Tejano (station)" in Atlanta,

continued on page 12 ►



Music Director Dr. Rex performs surgery on the board during his afternoon drive shift on Tejano 107, KXTN-FM, in San Antonio, Texas.

is, other than an extremely infectious experience, is hard to pin down.

Influences

"Tejano music has been influenced by the '60s' rhythm and blues music," said Manny Guerra, president of Manny Music, a Tejano music label in San Antonio, Texas. "Tejano music is a very happy, upbeat, peppy music," explained Jesse Rios, program and operations director of 100,000-watt Tejano 107, KXTN-FM, in San Antonio, Texas. "(It) makes you want to get up and dance."

Jim Gomez, program director of 5,000-watt KABQ(AM) in Albuquerque, N.M., said Tejano is "really a variation of styles. It's almost an eclectic mixture of a bunch of different stuff that makes it what it is."

Gomez added that it's very difficult to define what Tejano is. "It's really something you have to hear," he said.

Don't start thinking Tejano is a format with an identity crisis, however. According to Gomez, Tejano is a traditional sound influenced by a contemporary sound. He said Tejano has its roots in rancheras, "kind of a straight four-four beat, almost like a German polka," but slower. "A Tejano ranchera beat has similarities to a country-type 4/4 beat."

In addition to rancheras, the Tejano sound is populated by cumbias, or tropical rhythms—"like a mellowed-out salsa-type

the Tejano mix, and you've got a format that's sizzling.

With somewhere in the neighborhood of 400-plus stations jumping on the Tejano bandwagon, whether full- or part-time, the format is making some serious waves in a business that is frequently in format-overload. Many Tejano stations, like KXTN, KABQ, KXTJ-FM (Super Tejano 108 in Houston, Texas), KATK(AM), in Carlsbad, New Mexico, and KOHT(AM), in Tucson, Ariz., are bilingual, and on the air.

Widely appealing

Scott Vera, program director of KATK(AM), said he's noticed that English-speaking people are listening to the station, which changed to Tejano from a mix of Spanish music about a year and a half ago. "I'll run into them on the street or at live remotes, and they'll come up and say I really like this new format you are doing," he said.

He added that Tejano music "is drawing other people, you know, other than the Hispanic crowd." Jose Rosario, director of promotions for Sony Discos, said Tejano has been attracting Anglos "from the beginning."

Many of today's Tejano stations are targeting younger listeners. KABQ's Gomez said, "Here in New Mexico, Spanish-language radio was getting to be known as

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Reorganize, and Reap Better Sales

by Bob Harris

DALLAS It is time for radio to change its ways. Station owners and managers must change the way they think about selling. It is time for new thinking in the composition and structure of radio sales staffs.

Let's talk about some of the things that you can do to change your sales staff to better meet the financial challenges and pressures that lie ahead.

Room to specialize

First of all, not all sales people have to do the same thing or call on the same types of accounts. There is plenty of

room in radio sales for specialists. Newspapers (radio's public enemy number one) have used sales specialists for years. Virtually every major market newspaper has sales people who call on very specific categories of business.

I guarantee you that if you are in a top 25-50 market, your newspaper has sales people who just call on food and grocery accounts, car dealers, night clubs and entertainment accounts, real estate projects and developments, shopping centers and many other specialties.

Why wouldn't this work for radio? It will if you develop experienced sales people who immerse themselves in one

or more specific industries. Sales specialists should attend station and national trade shows for that industry, like the National Hardware Show in Chicago, the recent Fancy Food Show in New York and the National Association of Home Builders in Las Vegas.

Your sales people then become experts on the specific industry. They are looked upon as problem solvers and business builders by the people they call. They understand the distribution system of the industries and categories they are working and therefore know which distribution level (broker, wholesaler, distributor) controls the ad budget, co-op funds,

"street money" or vendor money. The distribution point of available funds varies dramatically from industry to industry.

I do not believe you have to hire a hardware expert from the hardware industry to sell this type of account. I will bet you that there are plenty of people on your sales staff who would love to specialize a little or a lot. Let them try. This technique has worked very well for newspapers.

Exclusive opportunity

For sales specialization to be successful, you must give the specialist an exclusive opportunity to work the category. You cannot let other sales people cherry-pick specific accounts that rightfully belong to the specialist.

This may be considered radical thinking, but it is worth some thought and experimentation. What have you got to lose except the business your new sales specialist will develop?

Another sales technique that works extremely well for newspapers yet never seems to find favor in radio is the use of geographic territories for sales people. What is wrong with a sales person concentrating on a specific part of town?

Just like the cop on the beat, the sales person gets to know the neighborhood and is really in touch with the business climate. The sales people get involved with the Chamber of Commerce and other business development groups in their territory. They work with local real estate people to stay ahead of new businesses moving into their sales turf.

I have never understood the mentality of radio sales managers who encourage their sales people to travel the length and breadth of the market in search of sales. In Dallas-Fort Worth, like many other major markets, you could drive 30 to 50 miles between sales calls.

Numbers game

I believe two or three hours of daily driving time is a big waste of valuable sales time. If a sales person worked a designated geographic territory, think how many sales calls could be made in a day or a week. Don't forget that sales success is still a numbers game.

The more sales calls you make, the more sales you make. There should be no one who argues with this basic sales maxim, yet in radio, for whatever reason, we do not mandate that sales people work efficiently. I guess because we pay them on commission, we don't care how efficient they are.

It is time to rethink the way you direct your sales people and change the way you think about sales territories. Emulate newspapers and work for their incredible share of your market's local ad revenue.

Let me know what you are going to do differently to get some extra business this year.

□ □ □

Bob Harris is a sales and marketing consultant to the food manufacturer, food broker and broadcasting industries, based in Dallas. Do you agree or disagree with his premise that radio stations need to change the way sales are made?

Bob would love to hear from you with your views on this topic, or if you want equal time for an opposing view.

He can be reached at Harris Marketing Group, 3422 Flair Dr., Dallas, TX 75229; phone: 214-902-8552; or fax: 214-956-9885.

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Wolfman Jack: Still Howling On-Air

by Alan Haber

Part II of II

WASHINGTON Wolfman Jack possesses many talents, by his own admission. One of them, he claims, is his psychic abilities as a Disc Jockey. "I can feel the people out there," he said. "I can actually feel those brain vibrations."



Wolfman Jack in a clip from the nostalgia movie, "American Graffiti"

Sound Corny? Nah, this is the Wolfman we're talking about.

"Well, I've got to tell you, man, it's the greatest thrill for me," he said, speaking about being a disc jockey. "I thank God every day for keeping me alive so I can do this, you understand?"

Wolfman Jack, aka Robert Smith, aka Big Smith With the Records, aka Daddy Jules, had to come a long way to "this," his new gig at XTRA-104 in Waldorf, Md.-Washington, D.C. Along the way, this amalgamation of personalities has owned KUXL in Minneapolis, Minnesota, thanks to the money he made at XERF. "We used to have bags of money coming in every day, man," he said. Half of the Del Rio, Texas post office "was dedicated to XERF."

Thousand-watter KUXL was pretty much a duplicate of XERF, with its preachers and rhythm and blues music. "And there were enough black people there to support it," the Wolfman said. "because there was no black station in the town at the time, and religion always works, no matter what you do anywhere." Despite the station's success, Wolfman Jack didn't like being a station

owner. "I got out of that deal real fast, because (there was) just too much to deal with (with) the government and all the bullshit," he said.

American Graffiti

A lot of people today who may not have actually heard Wolfman Jack, remember him from the movie American Graffiti. In reality, nobody knew what the Wolfman looked like in those days—nobody knew whether he was black or white. "You got to remember the times, you know," he said. "There was a lot of racial prejudice going on, and I was definitely, you know, they thought I was black, you know. And that was fine for me, because

I was playing rhythm and blues, and I wanted the white folks and the black folks together on this thing. That's the only way you can win, man, is by having all human beings listening to you...So, it was good to keep Wolfman in the background at that time, and let 'em keep guessing who he was, you know?"

Wolfman Jack didn't "come to life" until the former Robert Smith "started performing, you know? And, even then," he said, "I went with a Hollywood make-up guy. He made me look like I was an East Indian from east L.A. and Harlem at the same time, so they couldn't figure out what the hell I was. Plus, I even looked a little Japanese. So, you know, it was one of those deals where I just wanted to be all races at that time."

Wolf cries satellite

In the old days, reaching seemingly any given geographical target in the United States was a simple matter of flipping the switch on XERF's transmitter. Today's satellite technology makes things a bit easier, and delivers better sound, to boot. Satellite radio, the Wolfman said, is "the future, definitely coming...I think eventually you'll just have a little satellite area on your car, man, you know, in your house, and you'll be able to pick anything up."

Even though he feels that satellite radio is going to be competing with local radio and television, he thinks they will be able to coexist. "People always are gonna want local radio and television," he said. "Always gonna be there. The local news... (is) always going to be there... We are thirsty, hungry for more entertainment. There's just not enough out there. I tell you, we eat up entertainment like, you know, there's no tomorrow. We're all addicts, man. We love it."

The Lupine Observer

Thirty years of howling across the airwaves uniquely qualifies Wolfman Jack as a keen observer of what makes radio

tick. Take shock radio, and Howard Stern, for example.

"There's certain people that can get away with it," he said. "I think Howard Stern definitely gets away with it. I love listening to Howard. I don't listen to him because I agree with what he says, I listen because I want to see how far he's

continued on page 21 ►

EVERYBODY LOVES THE WOLFMAN

It's only his third or fourth live broadcast on oldies radio WXTR-FM from the Hard Rock Cafe in Washington, D.C., but already it's obvious that he's at home. The steady stream of fans making their way to the broadcast table are warming up to him very quickly.

As Roy Laurence, WXTR-FM program director, says, "Wolfman is an icon, he's a legend. He's a living legend in popular music, in the rock and roll era. And nobody embodies better oldies radio than Wolfman Jack. So that's why we brought him aboard and signed him up, because we wanted to have him be a part of the new XTRA in Washington."

As for the Wolfman's fans here this night, there's the woman in town for a 50-year reunion of nursing cadets, who used to listen to the Wolfman in Chicago; the man from Miami, who's listened to the Wolfman "all my life" and says, when asked how he feels seeing him live, "I get chills. Shakes my nerves and rattles my brains"; and the woman who's chaperoning (along with 16 other adults) 50 sixth graders from Troy, Ohio, who says, "I'll tell ya, there's only one Wolfman."

There's the man in town for the National Association of Home Builders convention, who listened to the Wolfman on WNBC(AM) in New York City, and said the Wolfman's "...timeless. He represents rock 'n' roll... just fun and good times, and unfortunately that's not a readily found commodity today."

And then there's the couple from Houston, Texas, a few years older than most of the fans paying homage to the Wolfman at his broadcasting altar tonight. "(The Wolfman) came in on 250,000 watts, he came in on your bed-springs," Wallace Migura says. "You could hear him, I mean, wherever, you could hear him in the South Pacific. It was great. The kids listened to him, your parents didn't understand, but he was part of us, and he's still here..."

"We'd park out in the country on a black top road, a couple of cars, and just turn the radios on and listen to him, and dance to the music, just out beneath the stars, out in the open."

Wallace's wife, Lynn, added, "For about an hour, I mean, we all went home about one o'clock because we were all in church the next morning."

Wallace said they didn't expect to be sitting this close to the Wolfman. "We'll never forget it."

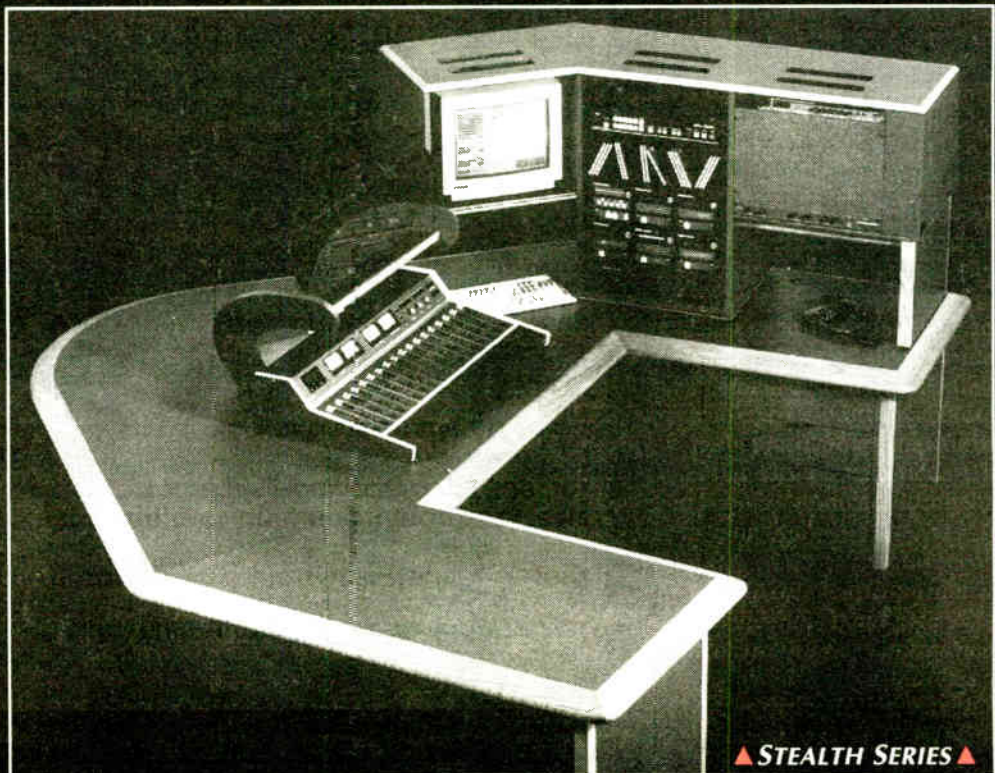
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TECH TALK

Are You Ready for Desktop Radio?

by Judith Gross

NEW YORK Is there a radio in your computer's future? The NAB's Futures Committee thinks so. The committee doesn't want to see radio get left behind in the fast-moving traffic on the info super-highway. One idea under investigation right now is the possibility of including radio receiver chips in your ordinary, desktop computer.

"The basic idea is to put AM and FM receiver chips into the computer's hardware," says NewCity's Dick Ferguson, the Futures Committee chair and vice chairman of the NAB Radio Board. "We're likely to see RBDS and high speed data included in future models, so why not aural radio reception?"

Why not, indeed. Ferguson notes that some computer models can already add cards for radio reception, and one company recently announced it would make a computer with radio and TV reception built in.

Certainly test and data could come in handy, as Ferguson points out. Especially as computers become increasingly portable.

"Let's say you and your laptop arrive in an unfamiliar city. You can tune into a station and get text guides of restaurants and events or listen to a station's programming and use the computer to find out what the

station's calls and formats are, even what song is playing," notes Ferguson.

But why would anyone turn on the computer when there is no shortage of radio receivers in most homes?

Ferguson observes that while radios may be convenient in homes and cars, they are not always within easy reach in most offices. "Radio is ideal for multitasking. You could be at your desk and tune in to get the weather or sports or news and traffic updates, then go back to whatever you were working on."

Obviously the Futures Committee is thinking ahead to a time when DAB is a reality and text and data, via RBDS or some other data transmission, is commonplace. That implies a world where the desktop or laptop computer has become the center of everyday life, not a far-fetched scenario.

The Futures Committee is eager to insure that radio not be left behind in the shuffle. Its leaders are taking what Ferguson says is a "pro-active role," including talking to computer manufacturers and doing their own research.

Committee members have set up subcommittees to get the ball rolling. E-Z Communications president Alan Box, having already taken an active role in broadcasters' efforts to get the DAB system most favorable to their concerns, is heading up the efforts on the radio-in-computers

frontier. Another member, David Benjamin of Community Pacific, is focusing on data transmission (RBDS and high speed). Another member will be spearheading education and research.

"This is our own pathway on the super-highway. Radios have traditionally been everywhere: in homes, jogging, even in hats and tote bags. Why shouldn't they be in the computer of the future? We certainly wouldn't want radio to be left out."

Just a quick update on a few other related items. Wondering what happened to the

EBS overhaul now that more than a year has passed since the Denver tests? You're not alone. The item was anticipated to have come up on the FCC's agenda by now, and it may have seen some action by the time you read this.

Well, first the NAB managed to have a say, most pointedly about the potential for adopting a new system that would be costly for broadcasters.

Then, apparently the new Clinton FCC appointees, including Chairman Reed Hundt, didn't view EBS to be as pressing as the previous Sikes and Quello commissions. It wasn't their agenda. But the word was that it would come up before the commission's summer break. Whether RDS would triumph or whether the commission would approve other types of systems was still up in the air by mid-July.

Tejano Beat on Radio

► continued from page 9

which, he noted, has "a big variety of people from Mexico and South America." KBNO(AM), a 24-hour, all-Spanish 1,000-watt station in Denver, Colorado, also plays a small percentage of Tejano music—about 3 percent—"because some people ask for it," according to Manuel Tarango, program director.

Tejano music, in the form of Selena, Mazz, La Mafia, Emilio Navaira and others, comprises about 15 percent of the otherwise regional Mexican format at all-Spanish WTAQ (AM) in Chicago. Program Director Jose Alanis says Tejano brings a "very good response from listeners," adding that there are a lot of Hispanics in the area. The 24-hour, 5,000-watt station covers Chicago,

part of Indiana and part of Wisconsin.

KOHT's Rivas said Tejano radio is "going to get big. I think it's going to be a big, big sound." KABQ's Gomez said his station is into Tejano for the foreseeable future.

He sees Tejano as "something that seems from the outside to be growing, with the increase in the number of record labels recently into the style" and setting up shop in San Antonio during the last year and a half. Gilbert Quintanilla, program director of KXTJ, looks for the Tejano format to make in-roads into different markets and to do well in Mexico.

KXTN's Rios said Tejano will definitely continue to grow. "Spanish radio has overall been... 5-10 years in back of general market radio—Tejano, even a little step further than overall Spanish, Latin music. We have not entered, in Tejano music, the video age yet. So, it is going to still continue to grow."

"We're still in the b-o of boom, you know," said KXTN's Rios. "There's still the o-m that should climax in the explosion of how big Tejano music is going to actually become."



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Trail of Radio Hits Leads to PDs

by Alex Zavistovich

WASHINGTON When a radio station wants to get an idea of how well a particular single or artist might do in its format, its programming people often conduct music research. Using focus groups representing a cross-section of the station's demographic, songs are tested for marketability and general audience response. The results frequently determine whether the single or artist in question makes it into any significant rotation on the station.

None of this is news to you if you're involved in programming your station's musical format. Have you ever wondered, though, what happens before you ever get your promotional copy of the new release by Frente! or Tim McGraw? After all, music is big business, and the biggest part of it, arguably, is record promotion. If you were a VP of promotion at some major label, how would you know whether to spend a sizeable piece of your budget on a developing artist or roll it back into a proven commodity?

The answer is, just as you would at a radio station: research.

Evaluating hit potential

Way off the entertainment industry's beaten path, in a corporate center near the Baltimore suburb of Columbia, Md., sits Active Industry Research (AIR). The 12-year-old company specializes in music research, contracting with record labels to identify the hit potential of countless new musical artists. The focus groups that AIR uses in its research are a cross-section of program directors, music directors and other radio station programming decision-makers.

The research is conducted in the form of a competition among these broadcast professionals. "Anybody who sits in the (programming) meeting can participate in the contest," according to AIR President Alan Smith, "as long as they can document they do in fact sit in the meeting."

AIR started in February of 1983, based on an idea of AIR's owner Jonas Cash some three years earlier. The early 1980s marked a period of free spending by record companies. The amount of music available for play was far greater than the amount of time radio programmers could spend listening to and evaluating new releases.

"Not only were records not getting on the radio, they weren't even reaching the ears of the program directors to be evaluated," said Smith. AIR was formed as a way to have radio station personnel listen to the releases and evaluate them for record labels, which were often unsure of how to spend their promotional budgets.

With the assistance of investors, Cash and Smith started their business in an 800-square-foot office in Columbia. Before they got started, however, they knew they had to overcome a possible misconception about the service they provided.

Seal of approval

"The first place we went with this idea was the FCC, to make certain that the Commission would not consider the competition to be associated in any way with the notion of payola," Smith said. FCC attorneys in Washington issued a formal ruling on the competition, giving the AIR contest in essence a seal of approval.

When AIR begins a competition, the company places a print advertisement

designed to attract program directors; the company prefers to have a panel of at least 200 music professionals for its research.

Participants are required to listen to a particular record, then respond to whether it has chart potential. Response categories in the contest are No. 1, Top Ten, Top 25 and Top 40. Participants also provide comments about how they believe the record will do, either nationally or for their own purposes. This information is then fed back to the record labels, providing a snapshot of where the label is with its artist at a specific point in time.

The competition lasts 30 weeks. Participants listen to an average of five to

six recordings a week. When a participant is correct about where a recording is going to chart, they earn points; they lose points when they're wrong. The most accurate participant over the course of the contest wins the grand prize.

On Friday mornings, each participant receives a priority sheet by fax. By Tuesday mornings, record promotional executives receive tabulated reports on the percentage of panelists participating in the report, along with percentage breakdown in each reporting category, and comments.

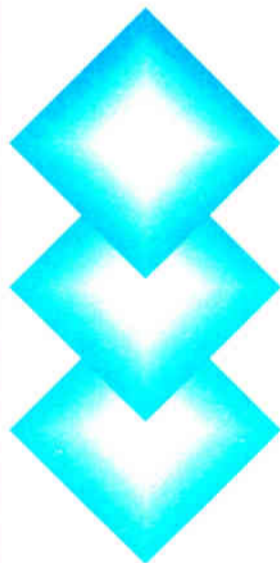
Smith said the AIR system has enabled some record companies to turn a healthy

profit. In the early '80s, when AIR began, many charts were inaccurate reflectors of what was really happening because they were based on adds—simple additions of a title to a playlist, not actual frequency of a release's rotation in the program day.

All of this information is confidential to the contracting companies, and confidentiality is also maintained among competition participants. Some radio stations, however, take advantage of AIR's reports on rotation—comments from stations that are already playing the record and what response they're getting. That information is shared with participating radio stations who inquire.

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For more information, contact Active Industry Research at 410-381-6800.



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NASCAR Race is Broadcast" and "From the Beach to the Blacktop," which depicts the history of NASCAR.

For information, contact Susan Moss in Georgia at 404-892-2287; fax: 404-892-6806; or circle **Reader Service 142**.

Twelve Years on "The Record Shelf"

LOS ANGELES Jim Svejda and "The Record Shelf" have reached the 12 year mark. "The Record Shelf" samples a variety of classical music and features discussions with musicians, composers and scholars. The show is sponsored by The E. Nakamichi Foundation, produced by USC Radio and distributed by Public Radio International (PRI).

For information, contact Wallace Smith in California 213-743-5872; fax: 213-743-5853; or circle **Reader Service 92**.

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NEW YORK Manhattan Production Music (MPM) added two CDs to its music library. The first disc, "High Energy Rock III," features up tempo, energetic hard driving rock with twin guitars, bass and drums.

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swing, bebop and cool eras.

For information, contact MPM in New York at 800-227-1954 or 212-333-5766; fax: 212-262-0814; or circle **Reader Service 72**.

New AC/Smooth Jazz Satellite Format

KNOXVILLE, Tenn. Target Radio Satellite networks launched "theLYTE" network, the only NAC/smooth jazz programming service. Developed as an upscale adult format, TheLYTE's programming is localized for each affiliate by Target's on-air announcers through custom tailored IDs, local sweepers and network-return local liners. TheLYTE's totally digital network service is offered on a cash/barter, market-exclusive basis.

For information, contact Andy Reeves in Tennessee at 800-843-5983; fax: 615-675-2511; or circle **Reader Service 132**.

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NEW YORK GNG Communications offers "Around the Bases," a daily one-minute baseball feature distributed on CD. The program supports the Buoniconti Fund to Cure Paralysis.

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Westwood One Adds Sportstalk

NEW YORK Westwood One Entertainment adds sportstalk programming on September 4 with the introduction of "Mike Francesa's Sports Now!" It will be broadcast live each Sunday morning from 9 to 11 from WFAN(AM) in New York.

The show will feature commentary from Francesa, complete game analysis and live interviews with experts in the sports world. Listeners will be able to call in with questions and comments too.

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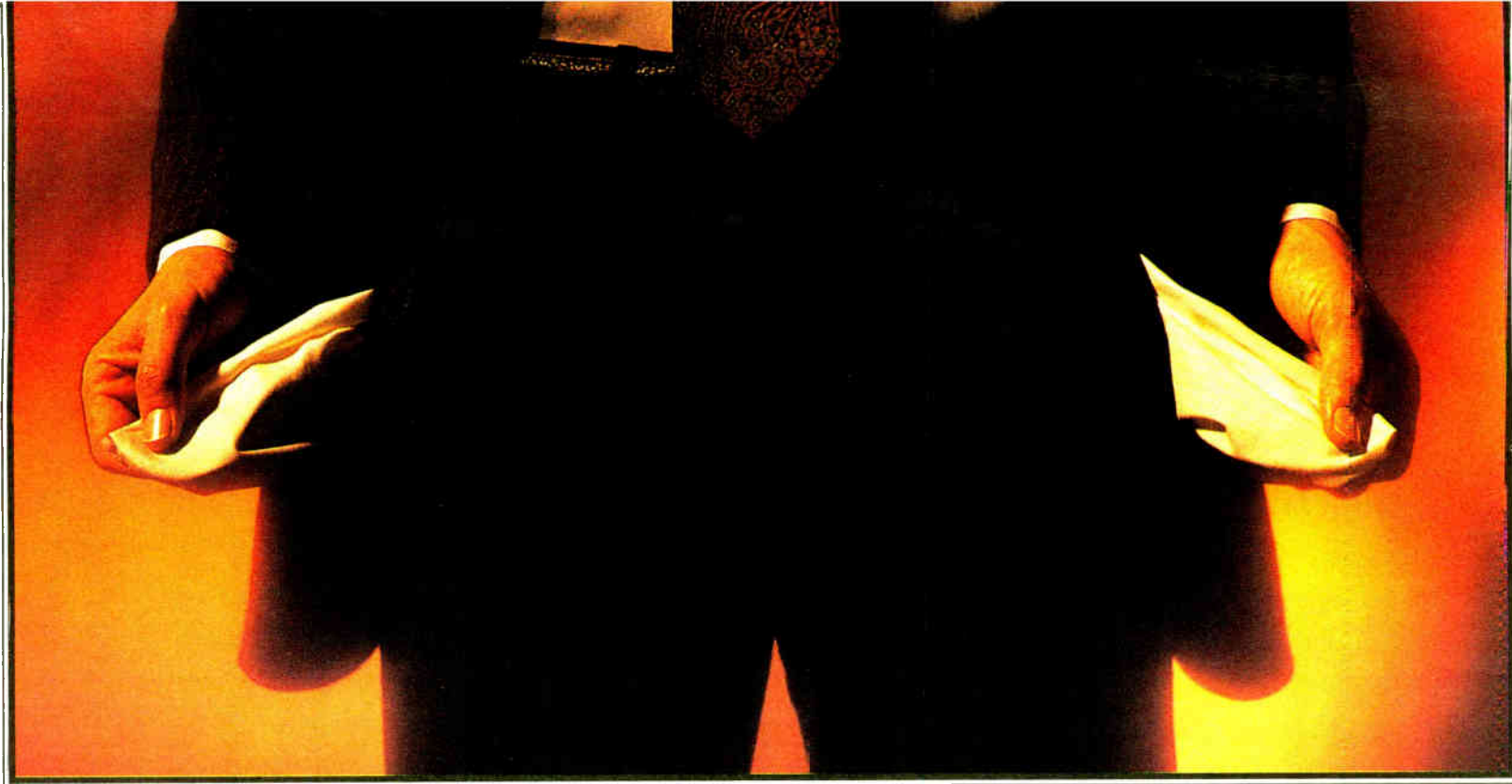
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Small Business Administration Loans Now

by Frank Montero

WASHINGTON On July 15, 1994, after months of lobbying by the NAB and other organizations, Small Business Administration (SBA) Administrator Erskine B. Bowles announced the repeal of the SBA's 40-year-old policy of excluding media-related businesses from eligibility for SBA financial assistance.

The rule, known commonly as the "Opinion Molder Rule," forbade SBA financial assistance to businesses engaged in "the creation, origination, expression, dissemination, propagation or distribution of ideas, values,

thoughts, opinions or similar intellectual property, regardless of medium, form or content."

The rule was originally intended as a safeguard against governmental interference with the expression of ideas through financial coercion. With the repeal of the Opinion Molder Rule, broadcasters are now eligible to apply for SBA financial assistance. For a brief period, from 1978 to 1986, there existed a broadcaster's exception to the Opinion Molder Rule, during which time the SBA allowed broadcasters to be eligible for SBA financial assistance. During that period, it is estimated that about 450

radio and television stations received \$88.2 million in SBA backing.

Urgently needed

In his announcement, Bowles stated that "the repeal of the Opinion Molder Rule will open the door to small business ownership and expansion to many deserving businesses." He also noted that this action "expands the president's commitment to increase access to capital for all small businesses."

The repeal of the rule will allow many small businesses throughout the country, but particularly in rural areas, to obtain financial assistance for maintenance,

upgrading and growth. The SBA estimates that 75,000 small businesses, including publishers, movie theaters, bookstores and broadcasters will be affected by the repeal. Those businesses represent nearly 95 percent of the companies in these industries.

The vast majority of all financial assistance provided by the SBA is not in the form of direct loans but instead comes in the form of federal guarantees on loans originating from either commercial lenders, non-bank lenders or certified development companies. (Direct SBA loans are very rare and are subject to restrictions which would make most applicants ineligible.) The guaranty provides that the SBA will repay most of your loan in the event that you default.

An SBA guaranty effectively transfers the risk of nonpayment from the lender to the SBA, up to the amount of the guaranty. This makes it far less risky for the bank, or other lenders to loan money to broadcasters, and therefore easier for the broadcaster to obtain a loan. As such, most SBA loans are in fact private commercial loans with an SBA guaranty.

Because it will likely be your commercial lender who will actually provide the financing, it is important for you to contact the source of your loan (e.g., your local bank or lending institution) to understand its requirements and options and to work with it to assemble the application and supporting documents which it will require.

Eligibility requirements

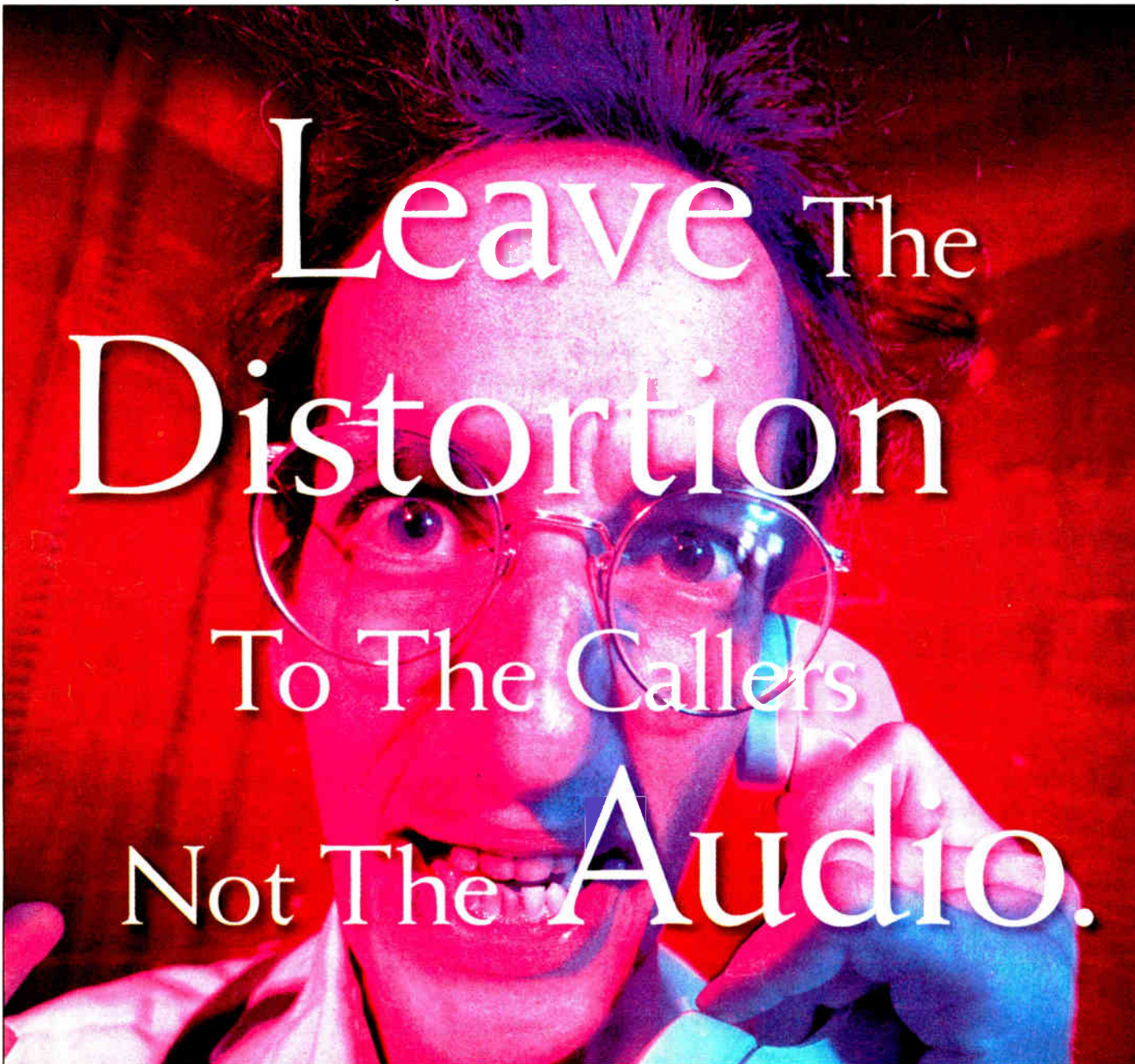
In order to be eligible for an SBA loan guaranty, your lender must certify that it will only make the loan to you on the condition that the SBA provide its guaranty. If the lender agrees to loan you the money without an SBA guaranty, you will be ineligible to receive the SBA guaranty. You should also make sure that your lender understands SBA policies and requirements.

Many lending institutions are familiar with SBA requirements, and a list of active SBA lenders can be obtained for your local SBA district office or by calling the SBA's toll-free number 800-827-5722 (or 800-8-ASK-SBA). This is important because the bank will be required to forward your application to the SBA. As such, you should check to see if the lender has certified lenders program or preferred lenders program status. They tend to be more knowledgeable.

If the lender's application does not meet SBA standards, or if your lender incorrectly administers the loan, the protection of an SBA guaranty could be in jeopardy.

When you apply to your lender and request an SBA guaranty, you should understand the two-step decision process involved. The SBA evaluates each application on two levels. The first requirement deals with applicant eligibility; this includes the size of your company, the nature of your business, the proposed use of the loan proceeds, the availability of funds from other sources and, in some cases, the location and ownership structure of your company.

The SBA defines a small business as one that is independently owned and operated and not dominant in its field. Some types of businesses are prohibited from receiving SBA assistance, such as those involved in gambling or the purchase of investment-type assets to hold for their potential value or



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income. Also, the SBA will not extend credit to businesses where the financial strength of the individual or the company itself is already sufficient to provide all or a part of the financing. Therefore, the utilization of business and personal financial resources is checked as part of the eligibility criteria.

The second evaluation is based on the credit merits of the application. The SBA places its primary emphasis for loan consideration on the "demonstrated ability of the business to repay" all business-related debt, including any loan obligations. Also, a reasonable "at stake" equity injection in the business by the applicant is required.

The general guidelines require an investment of one dollar for every three dollars loaned for new start-up businesses, or a ratio of total debt to net worth of at least 4:1 for existing firms. Each application is individually considered based on earnings potential, collateral, track record and/or projections, management and the type of business itself.

Specific guidelines

For broadcasters, the eligibility requirements are that the applicant's annual sales or receipts for the last three years do not exceed \$5 million for radio stations or \$10.5 million for television stations. Also, the SBA puts restrictions on how loan proceeds may be spent. The following are permissible uses:

- To purchase land or buildings to cover new construction as well as expansion or conversion of existing facilities
- To acquire equipment, machinery, supplies or materials
- For working capital, including the payment of accounts payable and/or for the purchase of inventory
- To refinance existing business indebtedness which is not already unstructured with reasonable terms and conditions
- For short-term seasonal financing, contract financing and construction financing needs of the business

In contrast, SBA loan proceeds *may not* be used for the following purposes:

- To refinance existing debt where the lender is in the position to sustain a loss and the SBA will assume that loss through refinancing
- To effect a change of business ownership where there is no benefit to the business
- To permit any reimbursement of funds owed to any owner
- To repay delinquent state or federal withholding taxes or other similar funds that should be held in trust or escrow.

Although the amount of your loan may be whatever the lending institution agrees to, the maximum amount which the SBA can guarantee is \$750,000 or 85 percent of the loan amount, whichever is less. For smaller loans of up to \$155,000, the SBA may guarantee up to 90 percent of the value of the loan.

The maximum loan maturity term is 25 years; however, the maturity for each individual case is based on the cash flow and the ability of the business to pay without hardship. Generally, maturity will vary with the purpose of the loan: between five and 10 years for working capital; up to 10 years for general machinery and equipment; and up to 25 years for building construction and equipment with a useful life of 25 years.

Repayment is usually on a monthly

installment basis of principal and interest, although variations may be negotiated to meet the start-up phase, seasonal cycles and other unique business amortization needs. Although interest rates on SBA guaranty loans are negotiated between the applicant and the private lender, the SBA does establish a maximum which banks may charge depending on the maturity of the loan. Specifically, for loans with maturity terms of less than seven years, the maximum rate is prime plus 2.25 percent.

Loans with maturity terms of seven years can have a rate up to prime plus 2.75 percent. Smaller loans under \$50,000 may have an interest rate of 1

percent higher. For loans of \$25,000 or less, a lender can charge up to 2 percent points over the normal maximums.

Straightforward process

The procedure you should follow is straightforward. You must prepare a detailed business plan. Once you have completed your business plan and your bank's loan application, you should set a time for an appointment with your lender. If your lender is unwilling to make the loan independently, you may request that it seek an SBA guaranty. In this case, the institution may provide you with an SBA application and have you complete the paperwork. The lender will then submit the SBA application, along with its own application and the business plan to the SBA.

If the lender's request for an SBA guaranty is approved, you will remain the lender's customer in every respect. Should the lender furnish you an SBA application, it is important to take the time necessary to complete each required form and provide all requested information.

For more information regarding SBA loan programs, you should contact the nearest SBA district office or the SBA answer desk at 800-827-5722 (800-8-ASK-SBA).

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This article was prepared by Frank Montero of the Washington law firm of Fisher Wayland Cooper Leader and Zaragoza, L.L.P., and furnished to RW by the National Association of Broadcasters. Mr. Montero is a communications attorney who represents broadcasters on financing and FCC-related business matters.

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MANAGER'S NOTEBOOK

Sex Is No Laughing Matter at Work

by Sue Jones

BURKE, Va. Over the last few years you have undoubtedly heard numerous stories and jokes about sexual harassment. If you think sexual harassment is a joke, you might have a much different perspective once you realize that committing or tolerating offensive behavior may cost you and your managers their jobs as well as their houses and their cars.

Today's laws and courts' crackdown mind-set could make sexual harassment in the workplace your career's most expensive mistake if you do not take it

seriously. FCC fines pale in comparison to some of the courts' recent awards for sexual harassment.

Test yourself

Test how much you know as a manager about identifying sexual harassment problems and responding to them by taking the following true/false quiz.

- A radio station can be liable for the conduct of the station's advertisers toward the station's employees.
- A sales representative closes a big deal. A department head makes a comment that implies that she got the sale because

she slept with the customer. The station and department head could be sued for sexual harassment.

- Sexually suggestive pictures, calendars or objects at the station create a potential liability, even if there have been no employee complaints.
- A sales manager may be held personally liable for condoning sexual relations between sales representatives and advertisers.
- Only unwelcome conduct can constitute sexual harassment.

All of the above statements are true.

Sexual harassment is prohibited by Title

VII of the Civil Rights Act of 1964, as amended. Since 1991 there has been a 50 percent increase in sexual harassment complaints at the Equal Employment Opportunity Commission (EEOC), the federal agency tasked with investigating complaints of discrimination. Two reasons are generally given for this increase: 1) The Clarence Thomas/Anita Hill Supreme Court confirmation hearings in 1991 focused the nation's attention on sexual harassment in the workplace; and 2) The 1991 Civil Rights Act provides for recovery of compensatory and punitive damages (up to \$300,000) and added the right to jury trials. Prior to this law, a successful case was limited to the remedies of reinstatement of employment and back pay for lost wages. Obviously, enforcement of the law is moving toward more serious consequences for violations.

Basic knowledge

The courts recognize two types of sexual harassment. They are:

1) *Quid pro quo* (this for that)— This includes employment, compensation, promotion, evaluations or bonuses conditioned on sexual favors. For example, a supervisor grants a job-related benefit in return for sexual favors or punishes the subordinate with a demotion, a poor evaluation or dismissal for the employee's refusal to submit to sexual advances. It is important to note that the station is liable even if management is "unaware."

2) *Hostile or offensive environment*— This occurs when the conduct complained of has the purpose or effect of interfering with an individual's work or performance or creating an intimidating, hostile or offensive work environment. This differs from *quid pro quo* in that the harasser can be a co-worker, supervisor, subordinate or client. However, the conduct must be sufficiently severe or pervasive to constitute unlawful behavior.

In order to determine whether the conduct is sufficiently severe or pervasive, the EEOC guidelines apply a "reasonable woman standard." That standard is: "Would a reasonable person of the same sex find this conduct intimidating, hostile or abusive and thus affect his/her ability to do his/her work?"

The Supreme Court has established a two-prong test to determine whether a hostile environment is actionable.

- 1) Would a reasonable person find this sort of workplace conduct offensive?
- 2) Did the conduct actually offend this particular employee?

The "reasonable woman" type standard applies to the first prong of the test.

The Supreme Court has also said that the existence of a hostile or abusive environment will depend on all the circumstances of a case, including:

- frequency and severity of the objectionable conduct;
- whether the conduct is physically threatening; and
- whether it unreasonably interferes with a staff member's performance.

So when is the station liable for an offensive work environment? The station and management may be liable, only the station may be liable or neither could be liable. That depends on who is the harasser. If the harasser is a supervisor and considered to be acting as an agent of the station, the station is usually liable.

However, if a supervisor has blatantly disregarded the laws and/or the station's policy and procedures, the owners may decide that it is not in their best interest to

continued on page 22 ►

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Celebrity Talking Is Good Radio and Fun

by Mark Lapidus

WASHINGTON I have had both the pleasure and misfortune of interviewing and working with a lot of rock stars: Jimmy Buffet; U2; Van Halen; The J. Geils Band; Aerosmith; Crosby, Stills and Nash; and many others.

The first time I interviewed a celebrity, I was so nervous I read the questions directly off a sheet of paper because I couldn't even think straight. The last time I interviewed a celebrity, I was so bored I never aired the interview.

A game plan

It's easy to understand why Groucho Marx didn't want to be a member of any club that would accept him as a member. Celebrities are just like the rest of us, except that they are famous. Excuse me for stating the obvious, but it is easy to forget why stars visit radio stations and exactly what to do with them once they arrive.

Let's develop a game plan that turns every celebrity visit into something fun and productive:

Why do stars visit radio stations? Most are there to promote something. It could be an upcoming concert in your area or a new book, video or CD. Others come just to satisfy their need to be in the public eye. Perhaps, they just happen to be in town, and you approached them when they were in the right mood.

In any case, stars visit you because they have something to accomplish. This what's-in-it-for-the-star element is important, as it may influence how you go about getting what you want from them. If you understand that they visit your station not because they like you or because they are being magnanimous, you will have no qualms about developing a strategy to obtain what you need.

Why do we want them to visit? Several reasons. Stars can be extremely entertaining, which is great because, after all, we are in the entertainment business. We also like having the public think we hang with a hip crowd. Having Harrison Ford come in and spin a few tunes with your

morning show while he plugs his new flick is cool.

There are also great benefits in pre-promoting, airing the interview and talking about it after the fact: It can generate more time spent listening. Regardless of the format, celebrity visits are generally a good idea.

Having Harrison Ford come in and spin a few tunes with your morning show while he plugs his new flick is cool.

I say "generally" because many things can go wrong. Sometimes they don't show up. Sometimes interviews are horribly dull. Sometimes they say bad things about us later. The key here is controlling every aspect of a celebrity visit.

Control the flow

First, the program director should oversee which celebrities make it on-air. Someone has to control the flow, determine the appropriate person to conduct the interview and the time it should be aired. Most stations automatically stick celebrities in morning drive and ignore the possibility of having them co-host a lunchtime request hour, an afternoon car-phone feature or an evening "top ten at ten." Although dependent on availability, it may be more entertaining to have a celebrity co-host something you are known in the market for doing.

Second, consider if it should be live or taped. Taped is always safer, but not always practical. If you want to take listener phone calls, for example, you probably cannot tape it. The big advantage of taping is that you can edit the boring material (or material that reflects that the talent is a bit overwhelmed that Mick Jagger is actually there). Later, you're better able to analyze what is interesting.

Once, while doing a live remote from London, we were involved in a celebrity table-to-table remote. There were stations from all over the U.S. in one room, so a

star could stroll from Detroit to New York to Washington all in the same air-shift. After doing this for one day live, we discovered it was better to tape the interviews on cassette and air them a few minutes later, hitting only the highlights. Too frequently, stars would drone on about nothing. Additionally, if you go

live and involve listeners, a delay is always a good idea.

The third control is preparation. You should know if the celebrity will perform. It is great when someone brings in a guitar or keyboard and plays, but when an artist wants to play, and that extra mic just isn't there, it's terrible.

It's great when your talent has questions ready to go, but when you get nothing but "yes" and "no" answers and your talent runs out of questions, it's awful. They also need to know how the delay works.

Whoever does the advance work needs to find out any artist requirements and get a general sense of what the star wants to do during the visit. (Your talent will appreciate this as well.) Stars can have strong feelings about seeming to control what they do in your studio. It may be very important for you to give them a sense of being in control just so they will appear.

Howard Stern is a master at discovering what controls a potential interviewee wants and then tears the celebrity to shreds for wanting it. He's frequently able to make this one of the most amusing parts of an interview.

This angle should not be attempted by most talents because it will not be pulled off correctly. They'll just wind up blowing the entire segment. It's better to find out what someone wants to do, then decide if you can live with—or if you need to modify—the celebrity's wishes.

The fourth control is making sure the artists gets there. Consider being the one to send the limo. It may make the difference in getting what you need—the star's body in your building. For phone interviews, get the artist's number and an emergency number for reaching the personal manager.

Finally, and perhaps most importantly, follow this celebrity checklist to make sure you milk each visit for everything it's worth:

- Get a photo in front of your logo with your DJs for press and client use. If you have a station video camera, use it during the visit. This could be included in sales presentations.
- Station IDs on tape. The copy should be typed up so that all you have to do is hand the celebrity the card while in the studio. Get a standard ID with your slogan and perhaps a special one for your morning show.
- Have the star sign two or three different items, e.g. their current CD or video; a guitar; an old microphone; a hat, shirt or pair of pants—you can then give away "the shirt off Elton John's back."
- Have them write out their favorite recipe for the celebrity cookbook you'll print later. If they cannot produce one on the spot, see if you can get a promise to be sent one. If they say they have nothing worthwhile, have them send you one from their mom, dad, wife or kids.
- Obtain releases for any material you intend to publish.

I know what you're thinking: That's a lot of stuff to ask for! But remember they came to you for their reasons, and you're welcoming them for your reasons. It's a perfect marriage. Come to think of it, fine chocolate (in the shape of your call letters) and flowers might make a nice parting gift.

□ □ □
Mark Lapidus is director of marketing for Liberty Broadcasting. Liberty owns WXTR-FM and WHFS(FM) in the Washington market; WGBB(AM)-WBAB-FM on Long Island, N.Y.; and WMXB(FM) in Richmond, Va. Mark can be reached at 301-899-3014; or write him care of RW.

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MARKETPLACE

On the Edge Doing Rock 'n' Roll Radio

► continued from page 11

going to go. And then when he does something really stupid, when he hurts somebody, I really feel sorry for him, because he's got to live with that, see. I myself personally could not do that...Thank God he don't get on my case. He likes me. We get along fine, me and Howard. He has respect for me. That's nice. I sure hope he don't get on my case, man."

Does the Wolfman think radio would be better off without today's purveyors of shock radio? "I believe in freedom of speech," he said. "You can't take that away from us. So, therefore, you're going to have that. If somebody wants to listen to that, then they're sick, you know. I don't personally like it myself."

Too much research

Today's more regimented formats are the result of too much research, according to the Wolfman. "What happened was that too many consultants... played it too close to the vest," he lamented. "And that's screwing the public...Us human beings deserve the best we can get. And we are not getting the best we can get from 90 percent of the TV and radio people that played it too close to the vest, pulled in the dummies, too much familiarity—they won't take any chances any more."

"There were some chances that we used to take that brought us great artists. You know?" The Wolfman pauses to consider his point. "How long has it been since there's been another Beatles? How long has it been since there's another Elvis? I mean, you know, they don't exist anymore, simply because they won't take that little extra thing to bring somebody forward."

The Wolfman knows what it would take to change that situation. "Somebody like me, who's got a ton of money, who don't give a sh*t, gonna buy a station in a major market, do what the **** I want with it, and I'm going to win," he proclaimed. "And they're going to say, well, we got to do like Wolfman does."

A couple cans of paint

Radio history is populated to overflowing with stories of clever, wacky DJ stunts that, sadly, aren't carried out very much any more in today's format-heavy radio universe. Wolfman Jack, telling about some of his wacky stunts, makes you long for the good old days.

The Wolfman's time at New York City's late, great lamented WNBC(AM), was "a great time in my life" and the setting for an incredible story, which has legend written all over it. "In order to get up the stairs into that NBC studio," the Wolfman began, "you had to come through these guards in the RCA building, and you had to have some kind of

identification to get up there at night. So to be smart enough to get past those f**king guards to get up to the studio, you were really doing it, you know what I mean?"

"So I told everybody on the air...I'm getting sick of this grey s**t, all I see is grey over here, grey walls, grey carpet, grey record bins, grey boards, grey ceiling. I said, tonight we're gonna paint this whole f**kin' studio and station. I said, bring up all the paint, chartreuse colors,



Wolfman Jack

reds, greens, yellows, let's get some real good colors in here, so when they walk in here tomorrow morning, it'll really piss 'em off!"

Before the Wolfman knew it, 50 people with paint cans and brushes made it upstairs to the NBC studios, past the

NBC guards. The Wolfman felt he could say nothing less than "go ahead and paint everything, paint the walls outside," which is exactly what happened. The next morning, the staff was not amused. And, NBC's program director told the Wolfman he thought the Wolfman was doing a "bit."

In the end, the Wolfman said, everything that had been painted in the Great Painting Wacky DJ Stunt had to be painted back to normal. And, Wolfman Jack had to pay \$23,000 out of his own pocket to make that happen.

Here come the snoids!

One night, while on the air at KDAY in Los Angeles, Wolfman Jack got an idea. "We're gonna have a snoid attack in Los Angeles," he remembered telling his engineer. "I got my writer to write up a whole bunch of news things," he said. He remembered how it went down: "Flash is comin' in: The snoids (are) down in east L.A. and have eaten three children!"

Listeners called up to find out about the snoids. The Wolfman told them, "Well, it's got about 12 legs, it's got big sharp teeth, you know what I mean, and there's some of them only about four inches long, some are about, oh, we found out there's some that are five feet long."

Needless to say, the listeners were a bit perturbed about the attack of the snoids.

So were the local fire and police departments, according to the Wolfman. "Well, the next day, man, the mayor comes to the radio station (with) his people," he remembered. "(The mayor) said, 'Where's the f**kin' Wolfman with this snoid bulls**t? It cost us about \$20,000 last night answering phone calls.' People were gettin', you know, sacrificed, eaten alive by these f**kin' snoids. There's a big thing in the paper and everything."

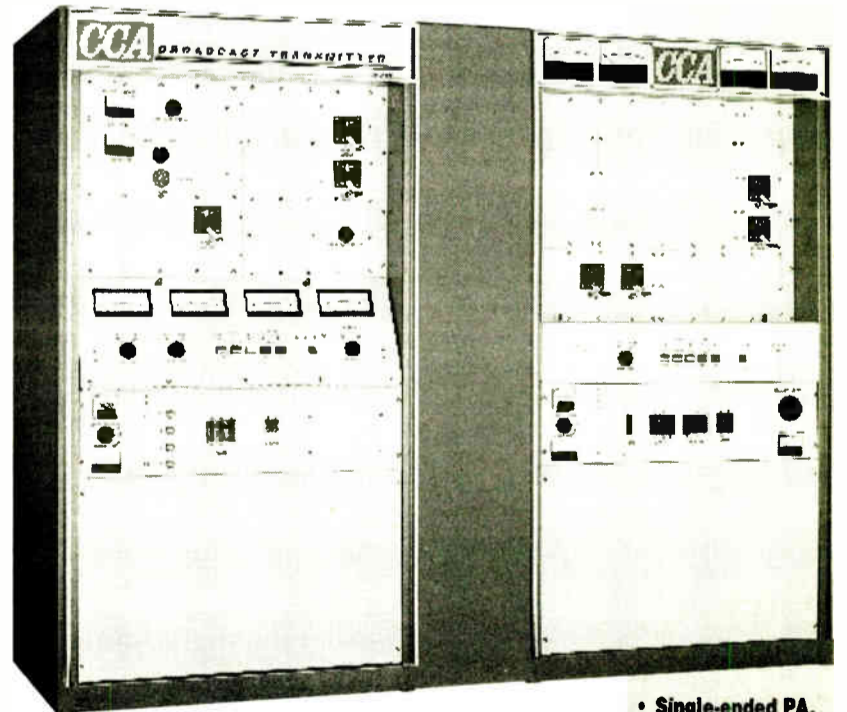
Wolfman's credo

The Wolfman said he got "severely reprimanded" for the snoid stunt. "They didn't fire me from the station," he said. "I made the newspapers, and I promised the mayor I'd never do it again." Shades of the radio broadcast of War of the Worlds...

Despite his antics, Wolfman Jack, aka Big Smith With the Records, aka Daddy Jules, aka Brooklyn's Robert Smith, stresses that he is indeed in the happiness business. "It's like a religion to me," he said. "I want to do the best I can for all my other brothers and sisters, human beings, whether they be black, white, yellow, brown, whatever. Whatever religion, race, we're all human. We all live and breathe... you understand, and we're all looking for that great moment, that great entertainment, that fulfillment that we want."

In Wolfman Jack, during the last 30 years, lots of human beings have been finding that fulfillment and will continue to do so during the next 30 years and beyond.

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Marconi Award Nominees Announced

WASHINGTON More than 100 radio stations and radio personalities representing the best and brightest in the industry have been selected as this year's final nominees in the National Association of Broadcasters' Marconi Radio Awards competition to be awarded at the NAB Marconi Radio Awards Dinner and Show on October 15.

Popular radio personality Rick Dees from "Rick Dees Weekly Top 40 Countdown" and KHS AM/FM, Los Angeles, Calif., will return for his second year to host the Marconis. The gala dinner and awards show will begin with a reception at 6 p.m. at the Westin-

Bonaventure Hotel, Los Angeles.

Marconi nominees were selected in 22 categories through open nominations received from NAB member radio stations. NAB member radio stations will select the winners. In mid-August, each station will receive a profile booklet of the nominees and two ballots, one for the general manager and one for the program director. The ballots must be returned by 5 p.m., EDT, September 9.

The nominees are:

Legendary Station of the Year

KDKA-AM, Pittsburgh, Pa.
KSL-AM, Salt Lake City, Utah
WBT-AM, Charlotte, N.C.
WHAS-AM, Louisville, Ky.
WJR-AM, Detroit, Mich.

Personalities of the Year

Network/Syndicated Personality of the Year

Rick Dees
Don Imus
Tom Joyner
Bob Kingsley
Howard Stern

Major Market Personality of the Year

Paul Berlin
J.P. McCarthy
Mike Roberts
Jean Ross
Matt Siegel

Large Market Personality of the Year

Stan Bell
Coyote Calhoun
Bev Johnson
Carl P. Mayfield
Dale Mitchell & Aunt Eloise

Medium Market Personality of the Year

Bobby Byrd
Dawn Carole
Jeff Carrol
Cactus Pryor
Bob Robbins

Small Market Personality of the Year

Jim Brennan
Joe Crystall
Jeffrey Steffen
Ron Thomas
Dave Visscher

Stations of the Year by Market Size

Major Market
KMPS-AM/FM, Seattle, Wash.

KNIX-FM, Phoenix, Ariz.
WFAN-AM, New York, N.Y.
WJR-AM, Detroit, Mich.
WVEE-FM, Atlanta, Ga.

Large Market

KMJ-AM, Fresno, Calif.
KOA-AM, Denver, Colo.
WFBQ-FM, Indianapolis, Ind.
WHAS-AM, Louisville, Ky.
WSIX-FM, Nashville, Tenn.

Medium Market

KLBJ-AM, Austin, Texas
WILM-AM, Wilmington, Del.
WMT-AM, Cedar Rapids, Iowa
WOKQ-FM, Dover, N.H.
WUSY-FM, Chattanooga, Tenn.

Small Market

KEKB-FM, Grand Junction, Colo.
KFIN-FM, Jonesboro, Ariz.
KGMI-AM, Bellingham, Wash.
KUOO-FM, Spirit Lake, Iowa
WHIZ-AM, Zanesville, Ohio

Sex Is No Joke at Work

► continued from page 18

offer a joint legal defense. Even if two separate legal teams are used, the station can still be liable unless it took prompt and effective remedial action. Some courts have held supervisors liable as agents of the employer and have assessed monetary awards against them personally. Typically the awards are in the \$10,000 to \$40,000 range.

If a co-worker, subordinate or client is the harasser, the station is liable if the management knew or should have known of the harassment and failed to take prompt and adequate action.

Welcome or unwelcome

Under quid pro quo and hostile environment, the conduct must be unwelcome by the victim. The Supreme Court has ruled

that a sexual relationship could be both "voluntary" and "unwelcome" and therefore unlawful harassment. This ruling was made after the victim testified that she participated in a sexual relationship because she was afraid of her supervisor and feared losing her job. Under quid pro quo, the threat can be implicit. The supervisor does not have to say directly, "Sleep with me or you'll be fired."

A station in the defensive mode in a sexual harassment case must prove the conduct was welcome. It is not always easy to prove the conduct was welcome to the alleged victim. A New York court awarded a Penthouse Pet \$4 million in damages after establishing that the magazine's publisher coerced her into participating in sexual relations with two of his business associates. The fact that the former centerfold had accepted employment that exploited her sexually did not create a waiver of her right to be free from sexual harassment in the workplace.

Sexual favoritism is another practice that can expose the station to liability. Widespread workplace favoritism resulting from sexual favors may be cause for a valid hostile work environment claim. This can be true even if the objectionable conduct is not directed at the complaining employee. If favoritism reaches the point where it becomes an unwritten station policy that employees must perform sexually in order to advance at the station, then one or more staff members may file a sexual harassment suit.

Furthermore, if widespread workplace favoritism results from granting sexual favors, both male and female colleagues who do not welcome this conduct can establish a hostile work environment in violation of the law. Both men and women who find this offensive can establish a violation if the conduct is sufficiently severe or pervasive to alter the conditions of their employment and create an abusive working environment.

What can you do to protect yourself, your managers and the station? I will cover that in my next column.

□ □ □

Sue Jones is a senior manager for Computer Data Systems Inc. in Rockville, Md. She can be reached at 703-323-0491. Robin M. McCune, CDSI Senior Legal Counsel, contributed information to this article.



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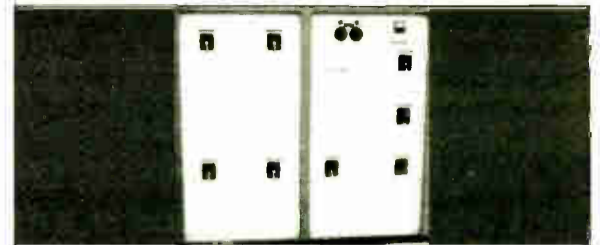
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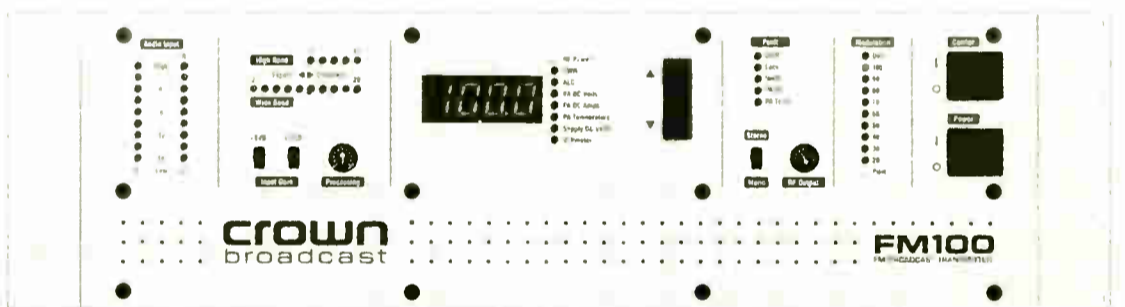
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World Cup on the Radio

► continued from page 1

equipped to supply equipment to international radio broadcasters for use during the World Cup—the company works with broadcasters and broadcast suppliers from over 77 countries on six continents. Some of the broadcasters that purchased equipment from BSW for the World Cup included CARACOL, which bought microphones, compact disc players, DAT recorders, headphone consoles, cassette decks and headphones, among other equipment; and Radio Stereo Guia from Ecuador, which purchased some stereo phono preamplifiers and compressor limiters. Other BSW World Cup clients included Radio Programas del Peru and Accion 104.5 FM from Merida, Venezuela.

RF Specialties of Texas, a full-line broadcast equipment dealer, rented four computer workstations to CARACOL, which were set up in the network's IBC studios on a Novell network and featured Dalet Digital Audio System software. Each workstation consisted of a Dell 486 DX-33 computer with a super VGA monitor, and a Micropolis one GB hard disk which could hold up to 500 minutes of stereo 15 kHz audio, including jingles and commercials.

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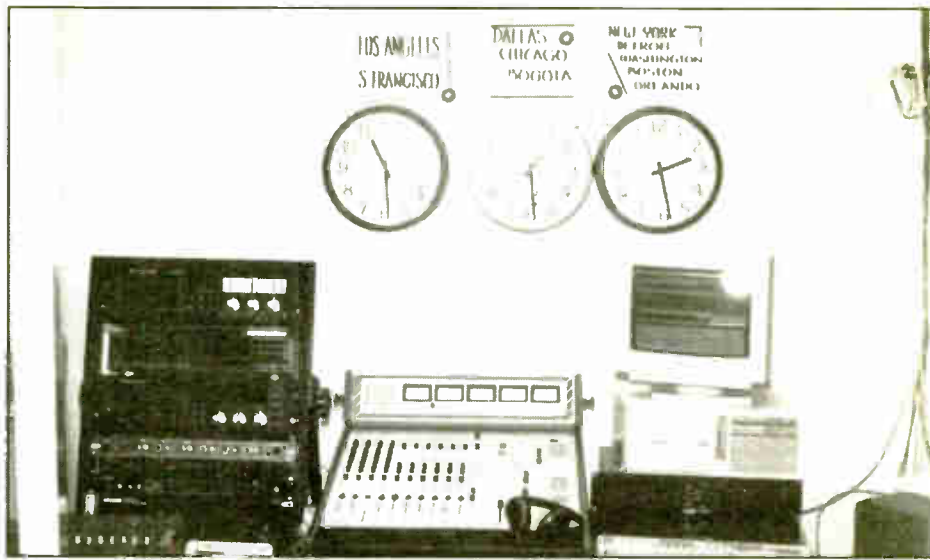
United States Broadcasts

In addition to being broadcast overseas, the 1994 World Cup radio coverage also was on-the-air here in the United States, where Chicago-based One-On-One Sports, Inc. was the official radio rights-holder for U.S. English-language broad-

so that a switched 56 circuit would automatically kick in if the dedicated 56 line failed (it didn't).

The temporary World Cup studio at One-On-One's Chicago headquarters, which are currently undergoing construction (the network is in the process of moving from Las Vegas), consisted of a Wheatstone Audioarts R-10 board, through which the stadium feed was fed; two Electro-Voice RE-20 microphones; two rack-mounted compact disc players; two Otari MX-5050 B-3 reel-to-reel tape recorders for play-by-play mixdown; four Audi-Cord cartridge machines (one a DL

continued on page 29 ►



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casts of the games. The 24-hour-a-day network has approximately 180 affiliates; about 98 percent are AM stations, predominantly running news, news/talk or all-sports formats.

One-On-One carried 26 of the 52 World Cup games, including the final on July 17; at each of the games they carried, they had one producer, and one play-by-play and one color announcer. According to Chief Engineer Jerry L. Heckerman, the first task in bringing the event to listeners was establishing a link between the IBC and One-On-One. This was accomplished by using Telos Zephyrs for 15 kHz audio on a dedicated 56 circuit. Adtran DSU-3 data service units were used at each end of the circuit

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World Cup Broadcast

► continued from page 25

series recording unit) for production and mixing music for pre- and post-game shows; and a VHS hi-fi VCR for archival purposes.

ISO/MPEG Layer 3 digital compression protocol was used on the digital signal, allowing the network to have 15 kHz audio on a single 56 circuit. One-On-One's World Cup programming was uplinked by IDB to Satcom's C-5 satellite, transponder 19, channel 2. According to Chuck Duncan, vice president and director of affiliate relations, the network's World Cup broadcasts "created a great deal of exposure for the network, and really pushed us into the forefront of

what's happening in radio today."

Official rights for Spanish language World Cup radio broadcasts in the United States were won by a joint venture between Cadena Radio Centro (CRC), Radio Programas Internacionales (which owns and operates WADO-AM in New York City, and WQBA-AM and WQBA-FM (La Exitosa) in Miami), and CARACOL. The joint venture, called Radio Copa Mundial '94, broadcast 34 of the 52 games, which aired on most of CRC's 61 United States affiliates. Play-by-play announcers

broadcast from commentary positions at the stadiums.

Programming was sent through digital switched 56 lines from the IBC to CRC in Los Angeles, then to CRC's uplink facility at KUSC-FM at the University of California, and finally to the Galaxy IV satellite. Dalet software and a hard disk

Signals were routed from the stadiums to the IBC by fiber optic cable.


storage system were used for recording.

According to Gerardo Reyes Diaz, Radio Programas Internacionales' sports marketing director and executive producer for the joint venture, the Dalet system

"is very easy to operate, (it's) faster and saves time."

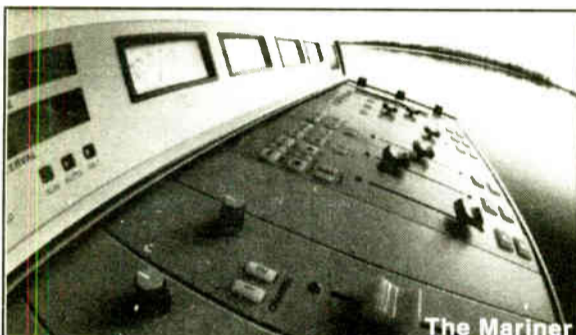
The joint venture's announcers—three from CARACOL, three from CRC, and one freelancer from the Gol network in Miami, which specializes in Spanish soccer broadcasts—came from Argentina, Colombia, Guatemala, Mexico and Uruguay. Each announcer was responsible for covering his home country's team on the air, which gave the broadcasts a unique flavor.

Diaz said that advertising for the broadcasts was nearly sold out. "Almost every station was sold out at the local level," he noted.

With regard to the success of the Spanish-language broadcasts in the U.S., Richard Santiago, general manager for CRC, said "basically, we made radio history." 

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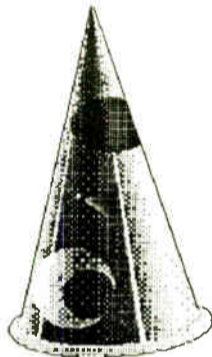
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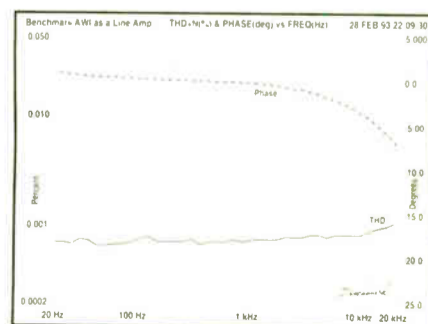


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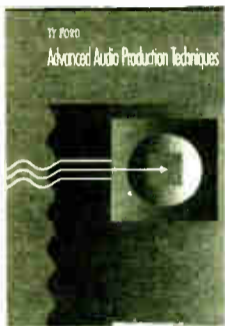
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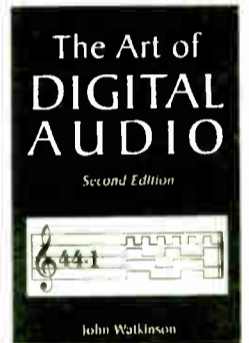
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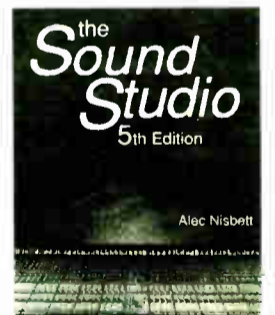
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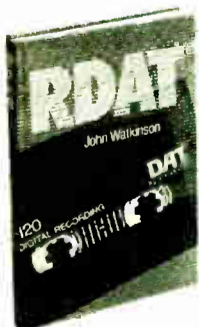
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Italy Requires Equipment Approval

by **Andrea Rivetta**

MILAN, Italy Under a controversial new law here, broadcasting equipment, whether manufactured in Italy or imported for sale, now must be submitted to the government for certification, according to a complicated new laws.

Rather than certifying individual pieces of equipment, the government requires that systems be submitted for approval. The new law regulates the sale and use of radio and television broadcasting systems. Manufacturers and importers must present a request for approval to the Italian Ministry of Post and Telecommunications.

Initially, the law did not have a provisional period, which will be added soon after enactment.

Equipment or systems?

But approving systems rather than individual pieces of equipment is the most controversial aspect because, among other things, it is contrary from certification processes worldwide.

This is a significant limitation because it can prevent broadcasters from designing a multiple-brand system. If a piece of equipment in the broadcast chain fails, the broadcast station will not be able to replace the failed equipment with just any similar equipment, even though it may be approved. The failed equipment must be replaced with equipment that is exactly identical—even in brand and model.

Should the company develop a new exciter to be combined with the old system, it would have to obtain a new approval for the whole system rather than just for the new element.

A committee of the Ministry—in which the Italian Broadcast Association (ABI), representing part of the private manufacturing sector, and RAI Radiotelevisione Italiana, the public broadcaster, are studying the law and its effects.

RAI engineers are alleged to have promoted the acceptance of the "single-brand" criterion that is so controversial.

Questions abound

With regard to the lack of a provisional period, until an amendment is enacted, which could take a year by some estimates, no broadcasting system is being approved. As a result, it is impossible to buy or sell anything in Italy without risking the confiscation of the equipment. This was an oversight by the Ministry, which will soon add an amendment concerning the provisional period.

Another sore spot, noted by engineer Salvatore Cosentino, a technical consultant for ABI, is the associated costs for the approval process. "There is also the problem of approval costs which is bound to be very controversial," Cosentino said. "It is alleged that, for each system, the price charged by the government for the use of its laboratories—just built and specifically equipped with measuring instruments that are sometimes excessive—will be in the order of 500,000 lira (about 320 dollars per hour)."

Estimates are that each system will require 10 to 20 hours of work, and each company owns about 20 systems, according to Cosentino.

"Making the calculations," he said, "one can arrive at very large amounts of money, especially if compared with the prices abroad which are significantly lower."

ABI President Antonio Orizzonte is disappointed by the new law. "For at least five years, we have been on the side of initiatives in favor of self-regulation," he said. "For three years, we have been working directly with the ministry to secure an effective law."

It is impossible to buy or sell anything in Italy without risking the confiscation of the equipment.

"However, this is by no means the beginning that we expected. The already published law's lack of a provisional period—which, when instituted, is expected to last about one year—is extremely serious. It was the ministry's job; we were not asked to participate in it, and here is the mistake."

Orizzonte said the ABI worked with the ministry to review the technical aspects of the law but not the legal parameters; that was left for the lawyers.

"It is at this point that the rules on the inevitable provisional period should have been included," Orizzonte said. "It is too bad that this did not happen."

ABI wrote a letter to the minister and is waiting for an answer. "We are not interested in arguing now, but in quickly coming out of this absurd situation that can cause the collapse of the entire sector and can also have dire consequences on employment levels," Orizzonte said.

In a prepared statement, Davide Porro from Diesis, the ABI press office, further criticized the decree.

"...Antenna quality is not mentioned. Therefore, the signal produced by an outstanding system could deteriorate because of a lousy system of antennae," he said. "It is because we struggled for years to define and obtain an effective law, that now we are struggling even more. We waited for

such a long time, it is unfair that the sector is treated with superficiality."

Technical specs

A positive aspect of this law is that it does not impose very strict technical parameters. This allows the approval of good-quality equipment, therefore, affordable selling costs.

Silvano Candeo, chief of Ufficio Primo, Istituto Superiore, Ministry of Post and Telecommunications, confirmed that contacts have been made, mainly with TV organizations because of the greater complexity of their equipment.

"This law will certainly be positive in the process of achieving uniformity," Candeo said, "in order to overcome the principles of mere economic optimization that, until now, have ruled the sector. The law conforms

with European laws and this will help those who intend to operate internationally."

Candeo admitted the law will have a strong impact, in the beginning. "The time required to pick up full speed will not be short," he said. "We polled the manufacturers and several different categories of equipment emerged. We will try to simplify the framework as much as possible, grouping together similar systems to speed up the process."

There also is another delicate aspect, Candeo suggested. "We need to avoid favoring some companies over others in order to prevent the creation of unfair competition," he said. "We need to conduct the majority of the verifications first and then begin to distribute the approvals to all the broadcasters simultaneously. However, the law does not provide for the freezing of the already certified approvals."

□ □ □

Andrea Rivetta covers the industry for RW in Italy.

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KFI's Remote Broadcast

► continued from page 8

Handel's explanation that we were not fascists and that all we wanted to do was a broadcast about his loss of his grandparents at Auschwitz fifty years earlier. We were finally given the go-ahead.

Remote No. 2

After our troubles with the three-line frequency extension system in Munich, we decided to make an audio check as soon as we arrived at our hotel in Krakow. Back in Los Angeles, KFI Program Director David Hall was helping with a contingency plan in case we had similar problems in Krakow. He had contacted IDB Communications to

arrange for an audio feed from Poland.

At the hotel, a technician was busy finishing up the installation of telephone lines for us in a meeting room that would be used as the broadcast studio. He did not speak English. I was glad to find that he spoke some German since I had a limited knowledge thanks to my wife. This time I knew to ask for "western plug" connectors.

The test did not go well. The three-line frequency extension system would seize a line as it should, but then it would drop, probably due to low and unstable loop current on the telephone line. After a few tries, it was clear that we were not going to be able to use the three-line frequency extension system. I called David Hall and

gave him the bad news and asked him to forge ahead with the backup plan.

Several months earlier I had attempted to set up a satellite feed via IDB from Krakow to Los Angeles for this broadcast. IDB was able to provide service from Warsaw but not Krakow. David Hall booked the service from Warsaw.

Change in plans

We made drastic changes to our plans. While Handel and the rest of the group went to Auschwitz, I had to travel to Warsaw to set up the equipment for a 3 p.m. broadcast scheduled when the rest of the group arrived on a later train.

On Thursday evening I inquired at the hotel how long it would take for a cab to take me to the train station on Friday, April 15. On Friday morning, I grabbed my two personal hand carry bags and two cases of remote gear—a combined weight of 75 pounds. It was an amazing bit of luck that my Polish cab driver spoke very good English. He told me he had been a driver for the Steven Spielberg crew during their filming of "Schindler's List."

The cab driver expressed concern for making it to the train station on time due to morning traffic. This worried me because if I missed this train, the next train would be too late to set up for the broadcast. The train was to depart at 8:05 a.m., and we arrived at the station at 7:55 a.m. The cabbie dropped me off, leaving me to catch the train. Here I was—at the curb with over 75 pounds of baggage and no baggage handlers or porters in sight. The cab driver, who was not a young man, helped me carry some of the lighter gear. I had to run to catch the train.

At 11:00 a.m. the train pulled into the Warsaw train station. I off-loaded all the luggage onto the train platform and again found a cab driver who helped me with the equipment and drove me to the hotel.

Mr. Fedular Cesari was my contact for setting up the broadcast. After a short wait for Cesari, he arrived and initially indicated that a broadcast would be impossible to set up for airing by 3 p.m. (it was already after 1 p.m.) I was depressed. But then Mr. Cesari made a few telephone calls after I told him that prior arrangements had been made by IDB Communications. He said that the line was terminated in the Telekomunikacja Polska Centrum (Polish Central Telephone office) a short distance away.

After a short cab ride, we entered the lobby of the Telekomunikacja Polska Centrum: it was similar to other European telephone companies where there are multiple phone booths. The phone booths are about four feet by four feet. As we entered the lobby, I saw some men working in one of the booths. It did not dawn on me that they were converting the booth into our studio. By now it was 2:15 p.m. I became amused by the idea of broadcasting from a Polish telephone booth in Warsaw.

I had left word at the Biuro Systemow Satelitarnych that the rest of my group would be arriving on the 2 p.m. train and to please direct them to join me in the lobby of the Telekomunikacja Polska Centrum building. When they arrived, Bill Lewis and Bill Handel were elated to find me and to have a chance to get on the air. They, too, were surprised to see the broadcast was going to be from a phone booth.

As the telephone technicians were finishing bringing our line into the phone booth, I requested another telephone to

monitor KFI audio.

The telephone was placed on a small round table previously taken from the snack bar in the lobby and placed in the phone booth. Time was short. This definitely was a no-frills setup. I grabbed a Shure FP12 headphone amp and switched it to mike level input. I plugged in a microphone. This headphone amp was my microphone amplifier. I plugged a cable into the headphone output jack and connected that cable to the cable coming from the ceiling, which I was told was the line to Los Angeles. It was now 2:55 p.m.

Back at the KFI studio, David Hall and engineer Tony Dinkel were ecstatic when they heard the first audio from Warsaw, Poland. It was 3 p.m. in Warsaw and 6 a.m. in Los Angeles. At 3:05 p.m. Warsaw time, Bill Handel commenced his Friday morning show after the 6 a.m. newscast finished. KFI was on the air from phone booth number 4 at the Telekomunikacja Polska Centrum in Warsaw, Poland. Whew!

□ □ □

Marvin Collins is chief engineer for KFI/KOST in Los Angeles and a contributing writer to RW.

PCS Auction Held by FCC

► continued from page 3

could provide them an opportunity to supplement future data transmission services on FM subcarriers with vastly increased capacity and interactive capability.

Many of the future local and regional narrowband auctions will use the same computer-driven simultaneous, multi-round bidding system used for the first time by the FCC last month.

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Rep. Ed Markey (D-Mass.)

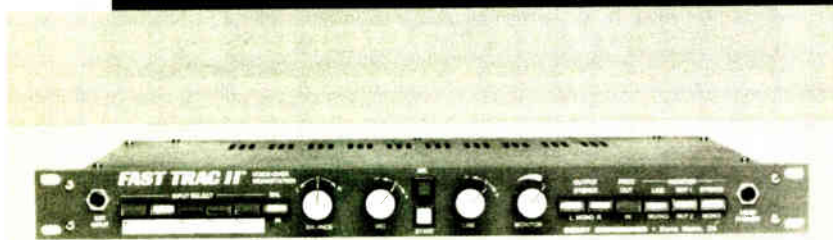
and participants and observers could keep track of the bids on video screens placed around the auction room.

Special computer software was developed for the simultaneous, multi-round bidding process. The program may be revised for future auctions, including possible remote bidding so that participants bid and keep track of other bids from computers in their own offices.

□ □ □

Those interested in participating in future PCS spectrum auctions should contact Tradewinds International Inc. (an independent firm hired by the FCC to organize the auctions) at 202-637-3221.

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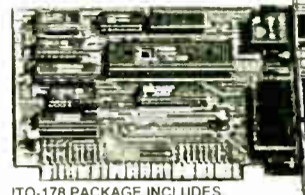
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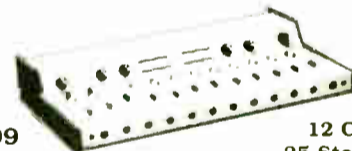
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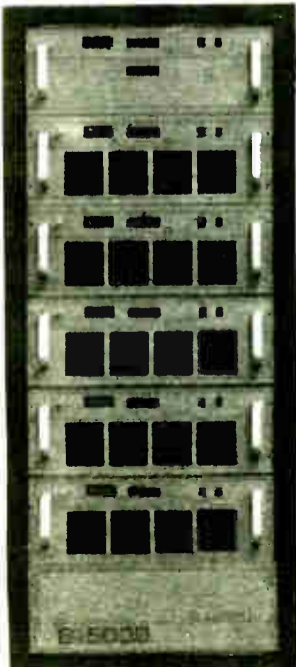
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LINE-OUT

Set Azimuth without Using Tones

by Bruce Bartlett
with Jenny Bartlett

ELKHART, Ind. Suppose you have an analog tape that you want to preserve on DAT. You want the tape to play back with a flat frequency response. To do this, you find the screw near the playback head that adjusts azimuth, and tweak it to get the best high-frequency response.

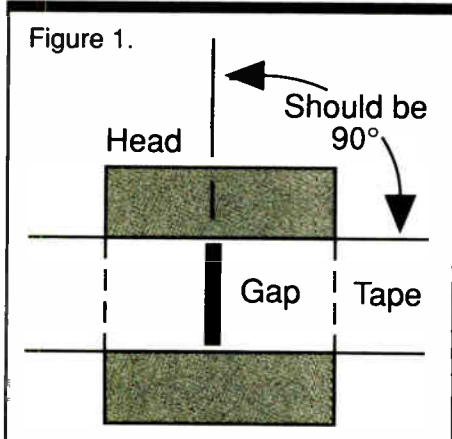
Usually this is done with a test tone recorded on tape. But if the tone is missing, what do you do? Before getting to that, let's review the concept of azimuth.

Correct azimuth

Azimuth is the angle the head gap makes with the edge of the tape (Figure 1). Normally, the correct azimuth angle is 90 degrees. That's assuming the record-head azimuth is also 90 degrees.

But for best high-frequency response, the azimuth of the playback head should match the azimuth that the record head had when the recording was made. If the record-head gap was at 88 degrees to the tape edge, the playback head gap should also be at 88 degrees for best highs.

It's good engineering practice to record a 15 kHz tone at the head of the tape; later, you can align the playback head



with this tone. But what if the tape has no alignment tones? How can you adjust the azimuth for the best high-frequency response? First clean and demagnetize the heads, then try one of these methods:

*Use an alignment tape. This will work if the tape was recorded on a machine whose heads were adjusted to an alignment tape. On the alignment tape, find and play the 15 kHz tone. Adjust the azimuth for maximum output on your VU meter. Even if the tape was made on a misaligned machine, this method will get you in the ballpark. But what you really want to do is match the playback head azimuth to the azimuth of the recorded signal. To do that, try one of the following methods:

Some methods

• Listen for brightness. Tweak the azimuth to the point where the cymbals sound the most crisp and clear. Cymbals generate a lot of high frequency energy, so they are a good test signal. The sound is brightest when azimuth is correct, and gets duller on either side of center. If you've lost your hearing acuity at high frequencies, ask someone with good ears to help you.

• Use a spectrum analyzer. If you don't trust your hearing, you might want to buy or rent a spectrum analyzer. Find a section on tape with a cymbal crash. Play it

over and over while looking at the 16 kHz band on the analyzer. Tweak the alignment to get the highest level at 12-16 kHz. This is the same method as using your ears, but you use your eyes instead.

• Use a DAW. Record a cymbal crash into a DAW and look at the amplitude of its waveform. Tweak the head a little and re-record the cymbal crash. Repeat this process several times. The setting with the highest amplitude is correct.

• Listen for phasing. This method works only on a stereo machine playing a mono tape. Play the tape on the stereo machine. Feed the two outputs into a mixer and

mix them to mono. When the alignment is perfect, there is no delay between the two gaps, so the sound quality is natural. If the azimuth is a little off, the highs will roll off—no treble. If the azimuth is way off, you'll hear multiple notches in the response (phase cancellations), which give a weird coloration.

Some engineers prefer to reverse the polarity of one channel, then combine the two channels. Adjust azimuth for best cancellation. When you copy the tape, use only one channel.

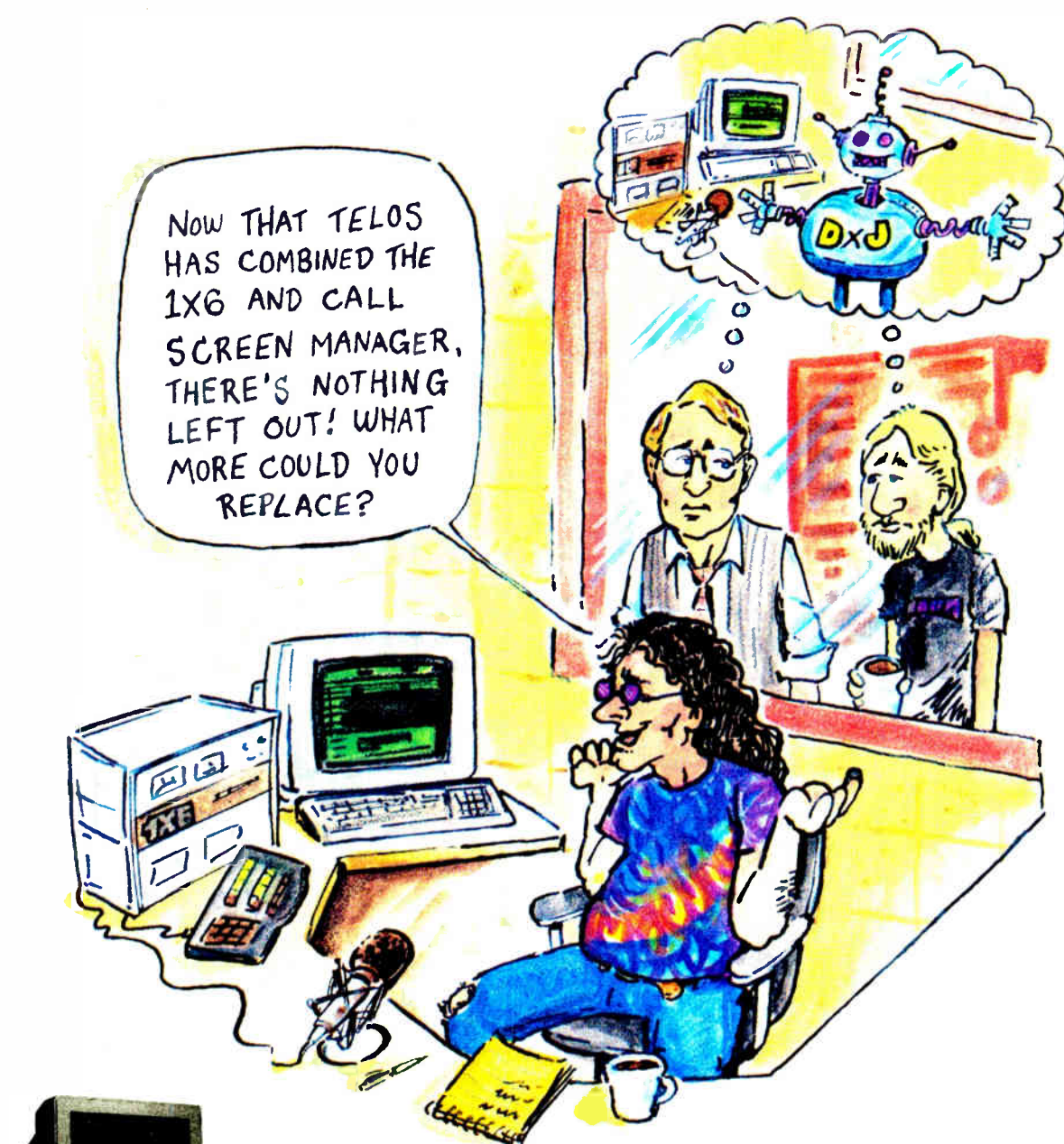
Playing a full-track mono tape on a half-track stereo deck has some draw-

backs. The S/N will degrade by 3 dB or more. Also, the fringing effect of magnetic signal lying outside the gap will boost the bass.

• Look for phasing on a scope. Use the same stereo playback deck as above. Plug its outputs into the horizontal and vertical inputs of an oscilloscope. This will make a Lissajous pattern. Play the tape and tweak the azimuth. When you see a diagonal straight line on the scope, the azimuth is correct.

□ □ □

Bruce Bartlett is a microphone engineer and technical writer for Crown International, and the author of "Practical Recording Techniques," published by Howard Sams. Jenny Bartlett is a technical writer. Bruce can be reached at 219-294-8388.



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WORKBENCH

There Is Life after Exciter Burnout

by John Bisset

SPRINGFIELD, Va. I am amazed at how many Gates TE-3 exciters are still in operation or still occupying space in the transmitter storage shed.

Ron Tollison, chief engineer for WRHM(FM) Lancaster, S.C., was brainstorming with engineer York David Anthony from the consulting firm Lambert & Anthony of Concord, N.C., for ideas to use translators to overcome serious interference problems. Ron was faced with an adjacent-channel interference problem caused by a fully spaced Class C at 942 meters HAAT. Terrain-induced interference is often corrected using a simple low-power "fill-in" translator.

Ron dusted off his Gates TE-3 and was prepared to combine it with a circularly polarized bay and some old coax. The sum of the parts was more like 2.5 watts rather than 10, if he could get the exciter to run.

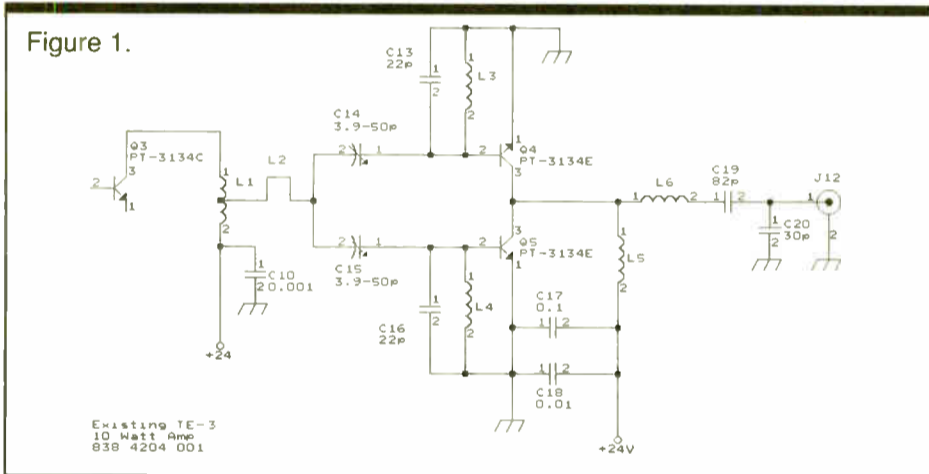
His first task was to reassure himself that the TE-3 would run reliably. True to

is oriented with the collector strap at the junction of L5 and L6. It definitely needs the power amplifier module's case as a heat sink. The emitters are tied with shim stock to the attaching screws.

Ron and David attached L2 to the junction of L1 and Q3 and added capacitors C101 and C102. Their values were found from assumptions about the old transistor pair and peaked up with trial and error. Motorola's data sheet shows that the input and output impedances are low and deviate little from 88 to 108 MHz.

In this case, the exciter was tuned for 93.5 MHz. For other frequencies, scaling C101/C102 linearly is reasonable.

During the burn-in, the modified TE-3 made 29 watts, clearly an improvement and definitely "in the ballpark" for a 10-watt circularly polarized translator. Additional exciter power might also help extend weak tube life, and perhaps Class D FM stations needing circular polarization may benefit from this modification as well.

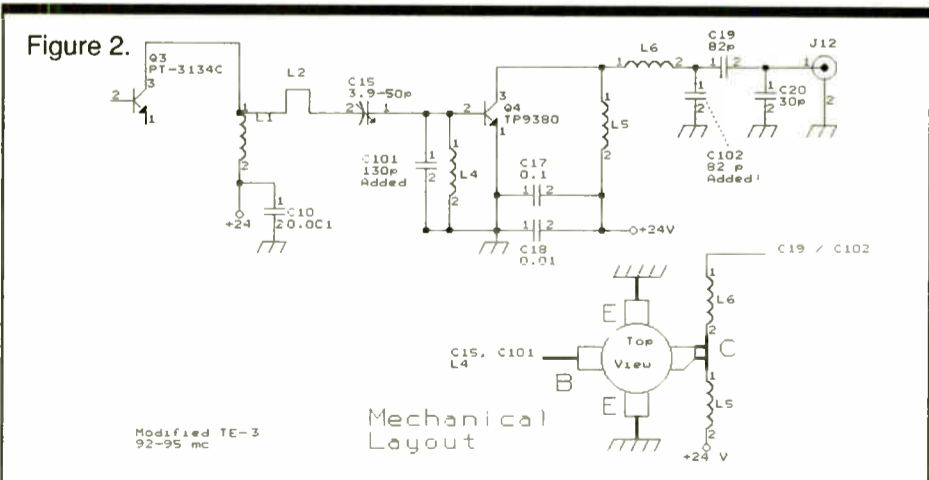


Murphy's law, the exciter's expensive (and nearly unobtainable) final amplifier transistor died the first night of burn-in. Now with a useless TE-3, David decided to install a manufacturer's sample obtained at his former "day job."

The Motorola TP-9380 is a bipolar RF transistor, designed specifically for FM-tuned final amplifier service. Fully dri-

Section 73.1695(e) of the FCC rules appears to permit this modification, provided that the equipment performance measurements in Section 73.1590 are made and an informal statement describing the modification is retained.

York David Anthony can be reached at Lambert and Anthony, 704-786-8874. Ron Tollison can be reached at 804-324-



ven, one of these makes 75 watts using a 28 VDC supply. This was clear overkill for the TE-3.

Figure 1 is the Gates TE-3 original schematic and Figure 2 shows the conversion that Ron and David developed. There is only one TP-9380 used, and it is mounted between the two old final amplifiers Q4 and Q5. The new transistor

1340. Whether you need a fill-in translator or not, the fact that the TE-3 can be pressed into reliable service after losing its final amplifier transistor should encourage everyone with a TE-3 in storage to consider giving the exciter a new lease on life.

★ ★ ★

One more month to go for those summer remotes. If you're budgeting for an

RPU mast, you will want to consider a reasonably priced amateur version. Ed Duellman, chief engineer for WOMET (AM)-WQTC-FM Manitowoc, Wis., an occasional columnist for Electronic Industries' "Common Point" newsletter, found a mast in the Summer 1994 "Amateur Electronic Supply Catalog."

Comparable to masts costing over \$1,000, the PORTAPLE collapses to just under six feet and extends to 26 feet. The

mast weighs 8.5 pounds and costs \$134.95. A park-on welded steel mount is \$99.95.

Amateur Electronic Supply can be reached at 414-358-0333. For more information, circle Reader Service 16.

□ □ □

John Bisset is a principal with Multiphase, a contract engineering and special projects company based in Washington, D.C. He can be reached at 703-323-7180. Fax submissions to 703-764-0751. Published submissions qualify for SBE Certification credit.

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OFFBEAT RADIO

NPR Program Roams around the World

by Dee McVicker

FORT EDWARD, N.Y. Radio drama producer and sound seeker Tom Lopez has followed his love of unusual sounds up the Amazon River, through the Indian subcontinent and around the islands of Indonesia.

There are few places Lopez would not go to record material for his many radio productions for National Public Radio (NPR) and other outlets. He has been to ancient burial ground in South America to tape the chatter of rare vampire bats and to remote islands in the East Indies to record the chanting prayers of Sumatrans.

"The quality and character of particular sounds are enormously important in not only setting mood and location, but in telling the story," said Lopez, a producer for ZBS Foundation Productions, Fort Edward, N.Y., who has written and engineered dozens of award-winning radio dramas.

In 1982, ZBS Foundation's "Ruby, the Adventures of a Galactic Gumshoe" won the National Federation of Community Broadcasters' Best Radio Drama award. NFCB named ZBS's "Dreams of Rio" Best Cultural Program of the Year in 1987.

Like a movie director in search of visually interesting settings, Lopez continually searches for ambient sounds "that will become another character in the drama."

Sound premises

Lopez's work can be heard regularly on ZBS Foundation's popular series, "The Incredible Adventures of Jack Flanders," which follows the exploits of an Indiana Jones-type adventurer. Lopez and his audio crew spent a week floating up the Amazon River and away from civilization to record for the "Flanders" series. The crew slept in hammocks, watched their step and kept judicious inventory of batteries to record the hoots, croaking and often menacing growls from the jungle.

Lopez wrote home from Pantanal, Brazil, during another "Flanders" trip:

"Drove last night to the middle of the swamp around midnight. Didn't dare leave the road because of the cayman, a type of alligator that lives here.... We recorded for a while, standing on the road, not too far from the car, and we decided to shine a flashlight at the lake to see what was out there. Hundreds of little red eyes stared back from just above the surface of the water. Bright red spots,

hundreds of them. Seems we were standing right in the spot where the cayman cross the road over to the other side of the lake."

The German binaural mic in question is a Neumann three-dimensional KU81, which Lopez brings along whenever he can to record the most realistic sound possible. "We want to capture sound the way we hear sound—above you, all around you, below you," he said.

He also usually brings a camera case concealing a microphone and DAT machine so that he can sneakily record wherever he goes, no matter what the situation.

Plot shapers

While on location, Lopez typically finds many new twists and turns to a story line. In many cases the story grows out of his experiences, adding to the real-life audio backdrop that is the hallmark of all his productions.

"I think it's obvious to most everyone that (they) haven't heard anything like this because these sounds don't come off-the-shelf. When they're hearing something taking place in the marketplace in Morocco, that's what it sounds like because that's what was recorded there and that's actually what's going on," Lopez said.

Lopez believes it is important to intersperse recaps throughout an episode. "You have to consider the way people use radio—the dial-hopping," he said. Moreover, television and film "have

created a sort of unconscious pacing that keeps things moving."

Some of Lopez's sounds do not require an exotic location. Many memorable sequences are recorded at his New York studio, such as a send-up scene where the notorious Jack Flanders sits at a table with a woman who takes off her hat, hair, lips, face and ears. Lopez used the old



Tom Lopez hunts for sound in the Amazon.

Broadway trick of removing a rubber glove to suggest the sound of peeling skin.

Whenever possible, Lopez works in multitrack and uses a digital workstation to mix down to and clean up ambience, which is stored along with thousands of sound effects on DAT or analog tape.

ZBS productions are a mainstay of NPR's weekly "Playhouse" series. ZBS's entire "Ruby" series will run on "Playhouse" starting this fall.

□□□

Dee McVicker is a free-lance writer and regular contributor to **RW**. She can be reached at 602-545-7363. ZBS Foundation radio dramas available on cassette or CD. Call 1-800-395-2549.

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FEEDLINE

Select the Coaxial Cable that Fits

by W.C. Alexander

DALLAS Just as the electrician must choose the correct wire and the plumber must select the appropriate pipe, radio engineers must choose the right size transmission line. Time and again I have seen installations where the wrong line has been chosen, sometimes with catastrophic results.

Proper transmission line selection can be the difference between a reliable system capable of operating under adverse conditions and a borderline system primed for failure. Sometimes the choice is clear and the differences are obvious; other times the limitations are hidden.

Coax choices

Coaxial cable is the most commonly used method for feeding power from the transmitter to the antenna system, and has been for quite some time. As its name implies, it is constructed using two concentric conductors on a single axis.

Several subcategories of transmission line fall under the broad heading of "coaxial cable." Broadcast transmission applications primarily call for semi-flexible cable (sometimes referred to by the trade name "Heliax") and rigid line, sometimes referred to as "hard line."

Semi-flexible cable is by far the most commonly used transmission line for AM and FM stations because of its wide range of low- and medium-power uses and a price considerably below comparably rated rigid line. The term "semi-flexible" means the bending radius of the line is quite large. The minimum bending radius for a 1 5/8-inch line is 20 inches.

Foam lines are semi-flexible cables designed for applications that do not require a pressurization path to the antenna. Their power handling capability is lower and loss is higher than the same size air-dielectric line, primarily because air is a superior dielectric. Foam-dielectric cable is available in sizes up to 1 5/8 inches.

Line choices

Air-dielectric semi-flexible lines use a spiral polyethylene spacer to keep constant spacing between the inner and outer conductors. It must be kept under constant pressurization with dry air or nitrogen for safe maintenance.

If a pressurized antenna is used, the line itself can convey the pressurization to the antenna. A dehydrator or nitrogen regulator is usually connected to the line at the bottom end of the run to provide pressurization.

Rigid lines are available in sizes from 7/8 to 9 3/16 inches.

They have inherent low losses and high power handling capability. Rigid lines are normally made in 20-foot lengths with flanges on each end. Inner conductors are made of highly conductive, oxygen-free copper and are supported inside the outer conductor by peg or disk insulators with a low dielectric constant, usually ceramic or Teflon.

If you have ever experienced a catastrophic failure of a transmission line, you will appreciate how easy it is to repair rigid line. Often when a burnout

occurs, it is confined to a relatively small area and the affected section or sections are easily replaced while soot particles are cleaned out of the remainder of the line.

For long, high-power runs, rigid line may be the best choice. We (Crawford Broadcasting) use rigid line at most of our FM stations because of its lower attenuation and easier maintenance. The cost is higher but worth it in the long run.

A typical 500-foot installation of 3 1/8-inch rigid line will yield

about seven-percent savings in transmitter power compared to three-inch, semi-flexible line. That is 2.1 kilowatts if the TPO is 30 kilowatts, which translates to about \$5 per 24-hour operating day, over \$1,800 a year and \$18,000 over the approximate 10-year lifetime of the line.

Characteristics

Several factors determine the suitability of a line for a given application. Cable manufacturers publish these parameters in the form of charts and graphs in

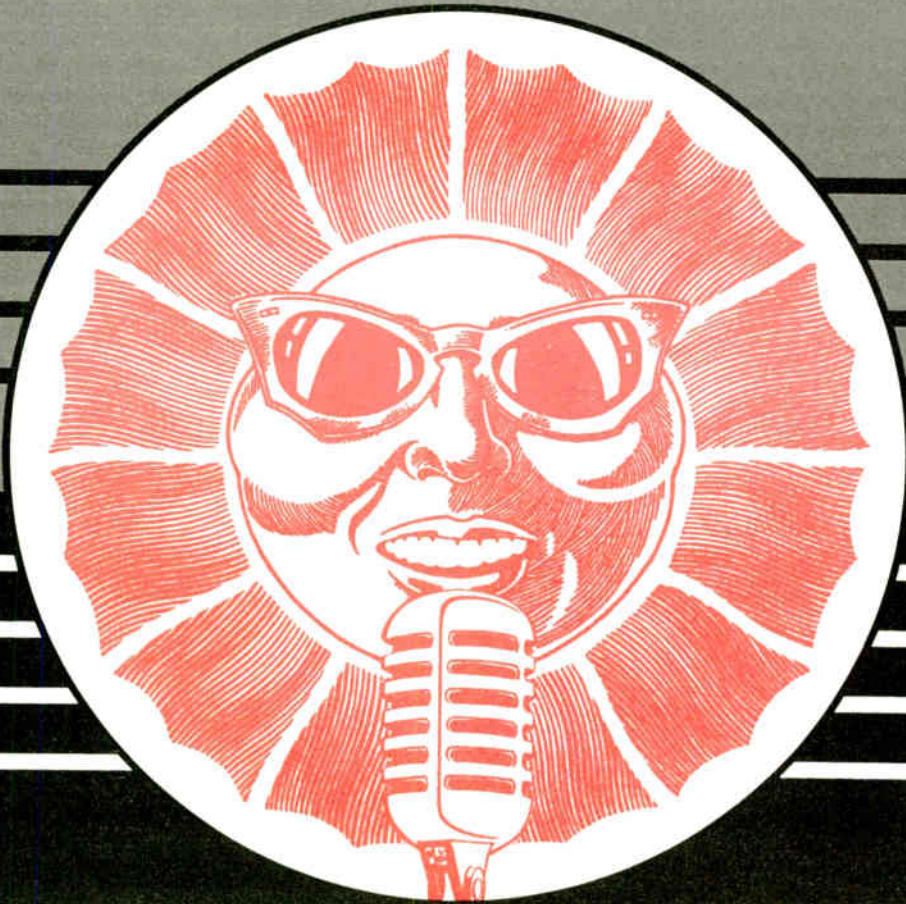
their transmission line catalogs. Engineers should keep several of these catalogs handy, which include several other pieces of useful engineering information besides line ratings.

Impedance is one of the most important factors to consider. It is determined by the size and spacing of the inner and outer conductors as well as the dielectric constant of the dielectric material between the conductors.

Most lines today are rated at 50 ohms, although I have measured the impedance of such lines to ± 10 percent of the nominally rated value. Seventy-five ohms is a common impedance value in

continued on page 41 ►

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INSIGHT-ON-RULES

Log-Keeping Vital to Station Compliance

by Harold Hallikainen

SAN LUIS OBISPO, Calif. Certain violations of FCC rules occur very frequently. They are violations that should be caught by the stations' chief operators during their required weekly log reviews.

The FCC sent me many of the violation notices issued in 1993 and the station responses following my Freedom of Information Act request. I have not yet received all the information I requested but enough to make some observations.

Several of the station responses claim that the chief operator was unaware of the weekly log review requirement. The purpose of a chief operator is to assist the licensee in keeping the station in compli-

Table 1.

Weekly Chief Operator Checklist Items

1. Operator on duty whenever station on air.	73.1860(a)	12. Modulation monitor peak indicator operable.	
2. All operator licenses posted.	73.1230(b)	13. Modulation within limits.	73.1570
3. Power within limits.	73.1560	14. Carrier frequency within limits.	73.1545
4. Readings reasonable (expected efficiency, etc.)		15. Stereo pilot injection & frequency ok.	
5. AM carrier on/off times as authorized.	73.1745(a)	16. Subcarrier injection, frequency and modulation ok.	
6. AM power/pattern change times correct.	73.1745(a)	17. EBS receiver ok and tuned to proper station.	
7. EBS receiver checked daily.	73.931(d)(3)	18. EBS checklist present.	
8. EBS test received 8:30 a.m. to sunset.	73.932(c)	19. EBS authenticator word list current.	
9. EBS test transmitted 8:30 a.m. to sunset.	73.961(c)	20. Directional loop current ratios ok.	73.62(a)
10. Tower lights checked daily (failures logged)	17.47(a)	21. Directional phase angles ok.	73.62(a)
11. FAA notified of top light or beacon failures	17.48(a)		

ance with the technical regulations. Many of the people designated to insure compliance apparently have not read the rules.

Almost all the violation records I have

received cite one or more violations of the Emergency Broadcasting System (EBS) rules. The FCC is expected to issue new EBS rules shortly, but stations must continue to comply with the current

rules in the meantime.

All the EBS violations could have been avoided if the chief operator was making proper log reviews. For example, a Maryland station was cited for not having an operable EBS receiver for six weeks. The station responded:

"Apparently the EBS receiver stopped working shortly after July 2, 1993. I was not informed of this by my staff. Rather I regularly asked the station staff whether EBS tests were being received and properly logged and was assured that they were. I had no knowledge of any problem until the day of the inspection. I had found my staff to be reliable in the past, and had no reason to suspect that they were not telling me the truth."

continued on page 42 ▶

Select Coaxial Cable that Fits

▶ continued from page 39

older systems, particularly AM systems.

Occasionally, transmission lines with characteristic impedances of 51 1/2, 52 or 63 ohms and even odder values can be found in older installations. For all practical purposes, unless you are replacing an older line and there is some compelling reason to use an odd-impedance line, 50 ohms is likely to be the desired value.

The power handling capability of a transmission line is absolutely critical to its proper selection and safe use. It is limited by either the maximum peak power, determined by the electric field strength and dielectric constant or the maximum average power, determined by the allowed temperature rise of the inner conductor.

The manufacturer's supplied ratings will tell you the average and peak-power capabilities of a given line at a glance, but it takes more than a glance to determine whether a line size is suitable for an application. Just about any manufacturer's power rating graph will also show that the peak and average power ratings tend to converge at lower frequencies so that they are the same at AM frequencies.

Consider, for example, an AM station replacing the transmission line to one of its directional array elements. Assume 10 kilowatts of power normally flows to that particular element and, according to the manufacturer's ratings, 7/8-inch foam dielectric line can safely handle 44 kilowatts. That should be an adequate safety margin, but is it?

VSWR allowance

If you modulate the power fed to the directional antenna element 100 percent positive, the peak power will be equal to 40 kilowatts, which cuts pretty close to 44 kilowatts. If you allow for 125 percent positive modulation, peak power exceeds 50 kilowatts.

Another variable that we need to allow for is VSWR (voltage standing wave ratio). In any real-world situation, i.e. changing ground conductivity, defective ATU components or a number of other factors will raise the VSWR on the transmission line to above one-to-one, even in the best matched system. When choosing a transmission line, always allow for two-to-one VSWR to insure a satisfactory safety margin.

The formula for derating a transmission line for VSWR and modulation is as follows:

$$P_D = \frac{P_{PK}}{(1+M)^2 VSWR}$$

Where: P_D = Transmission line derated power.

P_{PK} = Transmission line rated peak power.

M = Modulation percentage as a decimal (for FM, use 0).

Using the earlier example, 7/8-inch foam line rated at 44 kilowatts peak power, you can compute that the line is only good for a little over 4 kilowatts.

Take my word for it. A station here in Dallas had this very scenario play out on its system and burned out a brand new transmission line as a result. If I had my way, manufacturers would overlay this formula in red on their power rating tables and graphs.

Attenuation

Attenuation, another important line characteristic, is caused by a combination of I^2R losses of copper and losses of the dielectric material. Dielectric material losses tend to be directly proportional to the frequency; conductor to the dimensions, permeability and conductivity of the material, which tends to vary with the square root of the frequency.

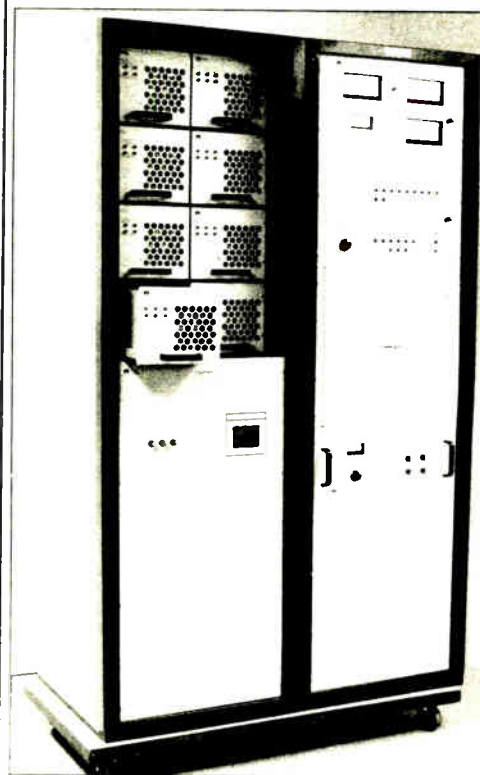
Depending upon your application, the attenuation of one line size over that of another, both with adequate power ratings, may make the difference between having to use a higher-power transmitter. For example, if the attenuation of one size line figured in with the gain of the antenna works back to a transmitter power output of 26.5 kilowatts (requiring a 27.5- or 30-kilowatt transmitter), it may be a good idea to check the next larger size line in the same equation.

The lower losses in the larger line will allow use of a 25-kilowatt transmitter. Besides the savings on the monthly electric bill, there will be an immediate and substantial savings in initial transmitter purchase cost that may offset the cost differential of the larger line.

When choosing a transmission line, keep your calculator handy and figure in all the variables. The choice is not as simple as it may appear. Just because the broadcast equipment dealer recommends a particular size and type of line, do not take his word for it. The optimal choice may be something else.

□ □ □
Cris Alexander is director of engineering for Crawford Broadcasting. He can be reached at Box 561307, Dallas, Texas 75356.

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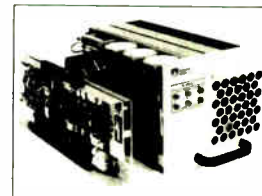
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Stations Need Redundancy for Backup

by Richard Mertz

FAIRFAX, Va. Stories about the heroic rescue of Apollo 13—widely recounted last month as part of the media's observance of the Apollo 11 moon landing 25 years ago—illustrate the importance of backup systems.

For those too young to remember, a year after Apollo 11, the Apollo 13 command module and lunar lander were damaged when a stuck thermostat caused an oxygen tank to explode, destroying fuel cells and reducing the available oxygen supply. NASA mission controllers used the few redundant systems available to them to patch things together and save enough oxygen and power to allow the astronauts to return to Earth.

Many station engineers will tell you that the most important transmitter in the plant is the backup. If the backup transmitter has been well maintained, the station can remain on the air while the main transmitter is being repaired.

Backup systems are just as crucial to computer operators.

Failures happen

Computers are nothing more than electronic components and systems assembled to perform a particular task. Electronic equipment produces heat, which may cause damage.

The computer hard drive is a marriage of electronic and mechanical systems. Data is stored on high-speed rotating disks, and electronic "fingers" that move back and forth over the disk surfaces read and write data. The fingers move at an incredible rate when the hard disk is in operation. Add excessive heat from the other computer components to this high-speed action, and you have a recipe for equipment failure.

When failure happens, there go your programs and your data. If the traffic department's computer fails, there goes tomorrow's commercial schedule. The

general manager's blood pressure rises, and the traffic director does not get home in time for dinner.

Your data may still be safe on the hard drive if the computer's mother board fails. However, if you hear the hard drive squeal and slowly grind to a halt, chances are your data is lost. There are services that can sometimes recover data from dead hard drives, but they take time and you have a station to run.

There is no easy way to recover from severe equipment failure. You could reload the programs, but what about all your lost data? Traffic programs use a great deal of disk space to store information. Preventative measures are the best course of action.

Regularly backing up data stored on the computer's hard drive is a must if you want to get up and running quickly after a failure. There are several backup methods.

You could copy all the program data files onto floppies, but if the data file is larger than your computer's floppy disk capacity, you are out of luck.

A simple solution is to use DOS's backup program. The backup program copies files from the hard drive sequentially to a series of floppy disks. This works but is unbelievably slow. You must sit in front of the computer and feed disks to the floppy drive when prompted. If you have a 345 MB drive, it would take almost 350 disks and about a day of your time.

Squeeze play

You can speed things up by compressing the backup files. Compressed files take up less memory. There are several backup programs on the market that compress files and assist with their transfer to floppies. I use Norton Backup, which helped me to solve my backup problem inexpensively.

One station's sales department maintained a database of clients and potential advertisers. As luck would have it, the 80 megabyte hard drive took a nose dive

into oblivion. Luckily, the sales assistant had printed a hard copy of the list. After the drive was replaced and the programs installed, all the data had to be reentered manually—a waste of time and talent.

To prevent this from happening again, a weekly backup routine was instituted using Norton Backup. The program was set to only backup data files, cutting down on the number of disks needed. Several features of the program made it easy for anyone to do the backup.

With the program set in the correct mode, a configuration file is automatically loaded. The computer prompts the user to insert disks in sequence. You do not even have to "press any key" every time a disk is changed. The program senses the new disk and keeps things rolling—no-fuss, no-muss computer meltdown insurance.

A floppy-based backup plan is too time consuming for those with large hard drives. Tape backup systems are an alternative. Many of these drives connect in parallel with the computer's existing floppy drives.

Like the floppy-based backups, the tape drives are also slow, but they can hold up to 250 megabytes of data. A backup of this size can take up to three hours, but you can set the backup to automatically begin after you have gone home. You can also use tapes to back up a large network server drive. You will need more than one tape, however.

Newer DAT backup tapes can back up several gigabytes on a single tape, but this method comes with a pretty steep price tag.

Use whatever backup strategy works for your particular situation and rest easily knowing that you are ready for an equipment failure.

□□□

Richard Mertz is a principal at the consulting engineering firm of Suffa and Cavell, Fairfax, Va. He can be reached at 703-591-0110 or through Compu-serve, 73020.3026.

Logs Play Vital Role At Station

► continued from page 41

The FCC expects a more formal compliance maintenance system through the weekly log review. The chief operator, I suggest, should review the previous calendar week's log every Monday morning. Missing EBS tests, transmitted or received, will be easily caught. Some chief operators review the log daily.

A log review checklist may be a helpful tool to incorporate into the station log. A checklist insures all items are checked, which may be more reliable than the chief operator's memory. The FCC uses a checklist during an inspection, so the chief operator should have one too.

Table 1 gives several items you may want to include on your checklist, including items I would check at a typical control point, assuming the station has a modulation monitor and frequency monitor there. "The NAB Guide for Broadcast Station Chief Operators" from NAB Publications also has example checklists. Call 800-368-5644 for information.

Operating power

Many stations are cited for operating outside their authorized power limits. A non-directional AM station in West Virginia was allegedly operating between 127 and 132 percent of licensed power for 48 days during a 72-day period. The station responded:

"It has been pointed out several times to individuals and a note was posted stating that the (antenna base) current must be read without modulation, which would dip the meter to proper operating current of 4.7 amps... With normal modulation, this meter would read in the 5.0 - 5.4 range, as would even the actual base R.F. meter."

Had the chief operator been making regular, thorough reviews, the irregular antenna base current readings indicating overpower operation would have been spotted within a week. In fact, the station was cited for not having the chief operator sign the log following the required weekly review.

An FCC inspector should not be able to walk into your station and find rule violations that take you by surprise. Once you are aware of a problem, log it and consult the rules as to what to do about it.

The rules provide for station operation without various required pieces of equipment pending their repair, provided the appropriate log entries are made. If you are missing EBS tests because your EBS receiver is being repaired, the inspector should be able to read this in your logs.

Find the problems before the FCC does, document them and fix them. Based on the violation notices I have seen, this could eliminate 80 or 90 percent of the violations.

□□□

Harold Hallikainen is president of Hallikainen and Friends, a manufacturer of transmitter control and telemetry systems. He also teaches electronics at Cuesta College, San Luis Obispo. He can be reached at 805-541-0200. He can also be reached on Internet at ap621@cleveland.freenet.edu.

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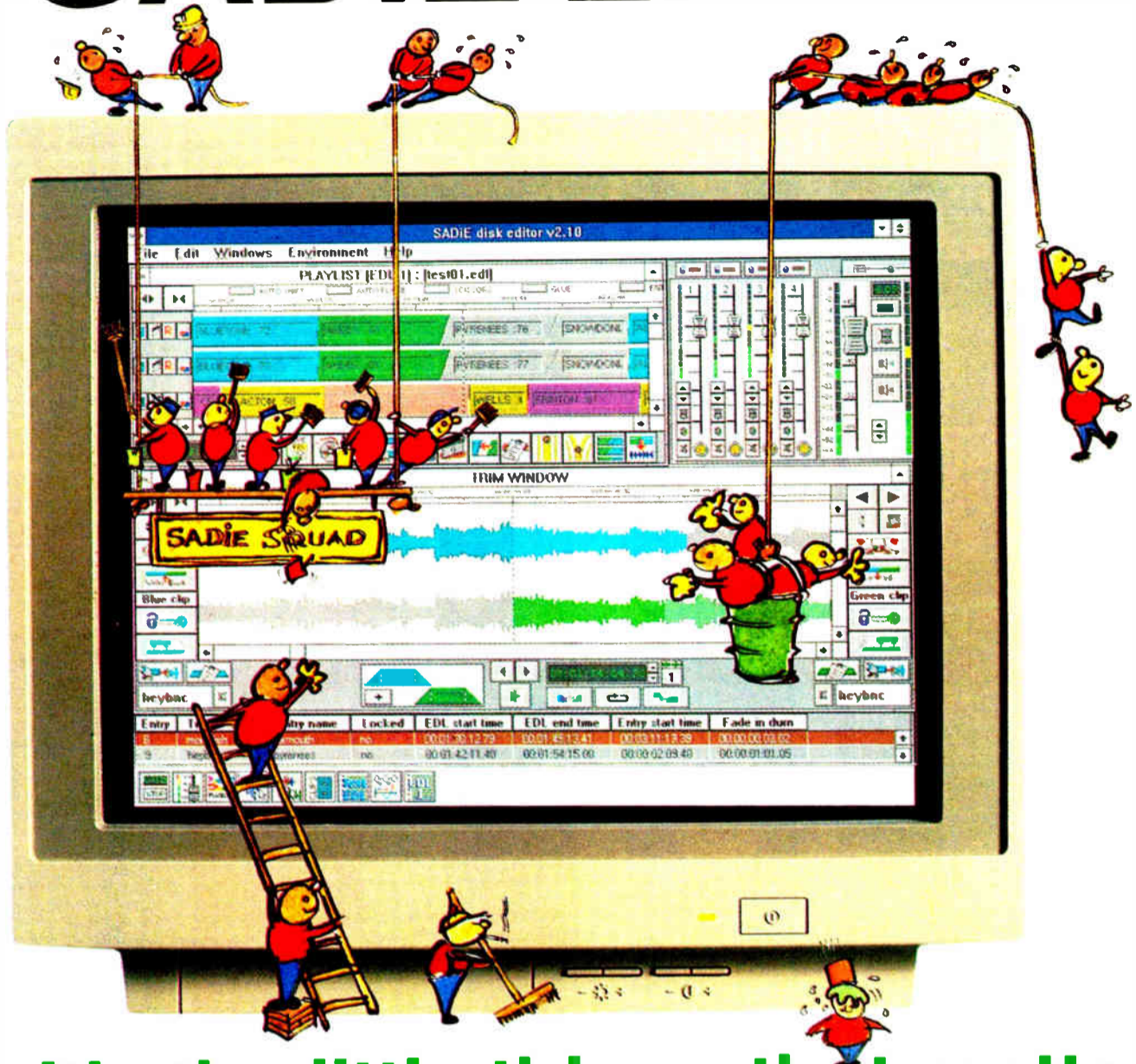
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Technics SP-15 TT, Rek-O-Kut S-160 arms w/extra hds; Audio Technica 16" arm w/changeable heads. B Korst, Authentic Sounds, 732 Wisconsin Ave, Beloit WI 53511. 608-362-7428.

Technics SL1500 MKII disco/direct drive, dital pitch control, 2 extra stylus incl, \$300. W Feinberg, Totaltape Publishing, 9417 Princess Palm Ave #400, Tampa FL 33619. 813-621-6200 ext 337.

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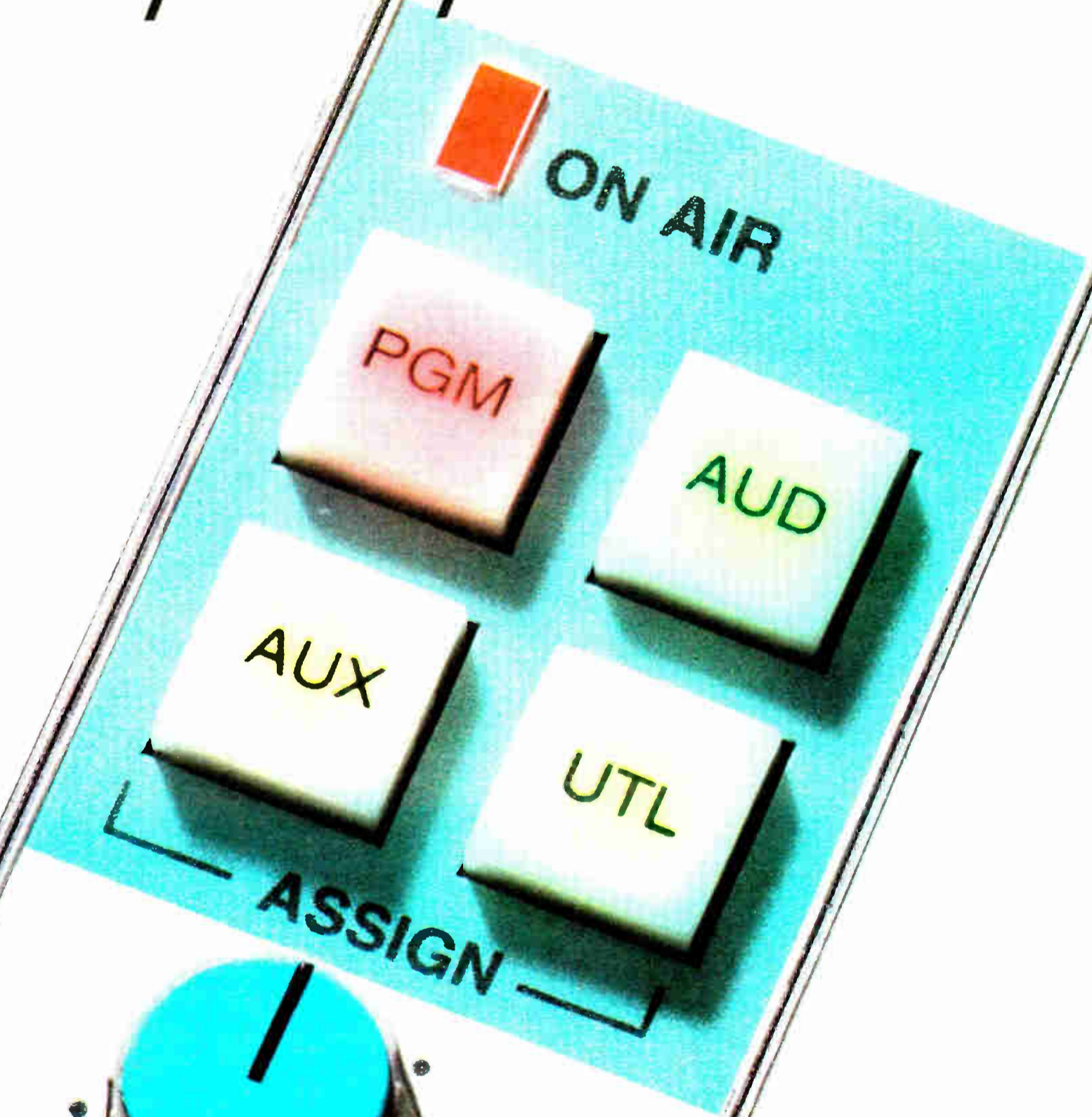
"There are always the three of us on the air in the morning, but it's not unusual to have 5 or 6 people in the studio and on the air at the same time ... plus the music, the commercials and the phone calls. And we still haven't begun to max out the console. It's so reliable that I don't think Doug has had to make even a minor adjustment or anything since we started using it."

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