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# BROADCAST PROGRAMMING & PRODUCTION

The Magazine of Commercial Television B



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page 7 . . .  
**WKRP IN CINCINNATI**



# station meeting minutes

by

**Howard W. Coleman**



## KEEP HER OR DROP HER?

"We have a problem," WAA-TV station manager Mort Jolliffe said as he opened his weekly staff meeting — and then he grinned: "This is what I say almost every week when we get together, and I know that."

"But this one concerns *both* sales and programming. Molly Heatherstone has been with us for over ten years as hostess of *Meet Molly*, noontime, 30-minutes daily of visiting celebrities, music, and so forth — and a full roster of clients, mostly national spot advertising but a few very important ones from the local market.

"With his sharp pencil and a calculator, Al Sligh, our business manager, points out for me the sobering fact that Molly is costing us almost as much as she brings in. There is no doubt that Molly is popular — but the question is: can we afford her? I've asked Al to put some financial details before us."

Sligh was brief and explicit: "Let's look at the basic cost of the show. Molly gets \$1,200 a week, and her husband Harvey 200 bucks for his twice-a-week guest news appearances — where he reads from *Time* magazine. Molly gets a bonus of \$30 for each spot run on the show.

"All of which adds up to the fact that the Heatherstones are drawing off more than 50% of the total sales dollars. And the upcoming contract calls for all of this to go up eight per cent for the next 52 weeks. Can we raise the rate card to cover this?"

Program manager George Safer commented: "Molly was originally a studio program, but she's become a mobile troupe with the addition of new station equipment: live appearances at shopping malls, state and county fairs, clients' shops and factories, videotaping for later use — Molly has the mobile van and supporting equipment in use two or three days every week. Which must be added to the overall programming cost."

"And that," Sligh nodded, "is the rest of the story."

"This I know," Jolliffe replied. "A good number of national accounts clamor to get in — right now. Molly is a great place to plant interviews for new products, and she gives them red carpet treatment. Which makes her easier to sell the next time. But let Bob tell you about us and the future with Molly."

Jolliffe nodded toward Bob Fenster, sales promotion manager.

"Molly has a respectable number under 'women' — but in age categories we find that she is weakest in the 18-34 group, average in the 34-49 group, and has a big margin with ladies over 50."

Ben Warren, the station's New York sales rep, nodded: "I'd be a bad sales rep for you if I didn't admit that this is the area where we have begun to find a little resistance. But I still don't think it's enough of a problem to kill off a winner."

"My fear for the future," Jolliffe said, "is in the area where national advertisers take a hard look at the *cumulative* audience. Molly has a large but static viewership, and in eight weeks she reaches less homes than her principal competition, close to 50 thousand less. Can we fight this?"

May Higgins, public relations director for the station, had some additional comment: "Molly has a great acceptance in our market — continuing flow of requests for tickets, crowds at remote tapings."

"But this very personal contact type of activity is a dead giveaway to the makeup of the audience. What I see, and what we handle in the mail, defines Molly's audience. These girls may still giggle, but they do it while encased in middle-to-large girdles, and in some cases through suspiciously even sets of teeth!"

Reg Jackson, local sales manager, added one more comment: "From a local point of view, we couldn't care. We'd have to have a lower rate card and a lot more loving cooperation before she'd ever be a prime item with my contacts."

Mort's problem is simple yet complex:

- Live with a low-income producing period as long as it attracts national spot business;
- Anticipate possible resistance in national spot, and have a standby program ready;
- Make a fast change, as soon as Molly's contract expires.

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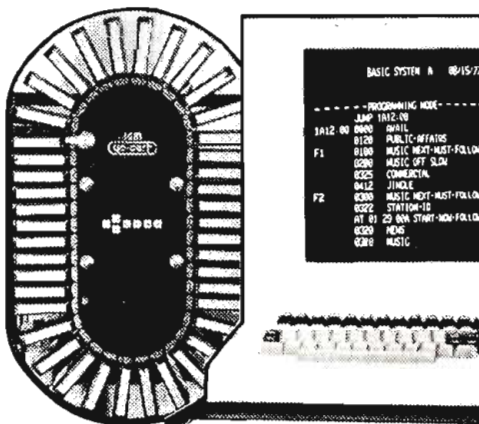
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**The Cover:**  
The "staff" of TV's  
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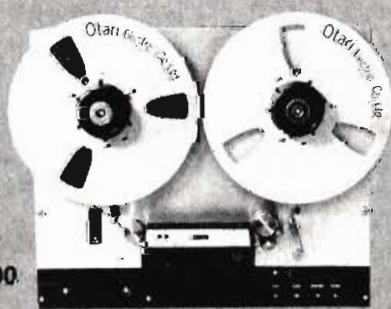
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## The Washington Connection

by

Clarence McKee



### DE-REGULATORY OVERKILL

In this column's September discussion of the proposed rewrite of the Communications Act — H.R. 13015 — broadcasters were advised that too much "de-regulation" could leave them as exposed as "nudists in the forest" to the attacks of citizens' groups, politicians and federal agencies which would likely feel they had no redress for grievances if H.R. 13015's proposals in the areas of Equal Employment Opportunity, Ascertainment and Equal Time (to name just a few) were to be adopted. The column concluded that the industry and the public would be better served by sending H.R. 13015 "back to the drawing board until new de-regulation proposals" could be developed.

H.R. 13015 was, in fact, sent back, only to be re-introduced as H.R. 3333 by Congressman Lionel Van Deerlin on March 19, 1979 as the Communications Act of 1979. Citizens groups believe that if enacted, H.R. 3333 would have a devastating effect on the radio medium: it would eliminate immediately the Fairness Doctrine, Equal Employment Opportunity Enforcement, and Ascertainment regulation. They believe also that the bill would have a similar impact on the television industry in that it would eliminate immediately Ascertainment and ultimately the Fairness Doctrine, Equal Time and Equal Employment Opportunity Enforcement.

Also appearing on the de-regulatory front are two Senate Bills — S.611, introduced by Senator Ernest Hollings and entitled the "Communications Act Amendments of 1979," and S.622, introduced by Senator Barry Goldwater, entitled "The Telecommunications Competition and De-Regulation Act of 1979." Both Senate bills propose radio/TV de-regulation, however, they are not as far-reaching on eliminating Fairness, Equal Time, Ascertainment and EEO rules for all licensees as is the House version.

There is no doubt a change will be made in the Communications Act. Most likely, any final legislation will more closely resemble a "marble cake," combining features of the two Senate bills rather than features of the House bill with regard to Ascertainment, EEO, Equal Time and the Fairness Doctrine. If the Congress were to run the gamut and ultimately eliminate these obligations totally, licensees would face the future wrath of an outraged public who would feel, as was true with the House bill, betrayed. Although citizens' voices have not been as loud in opposition to these proposals as the industry's has been in favor, government agencies (such as the Anti-Trust section of the Justice Department and the National Telecommunications and Information Agency) as well as organized citizens' and women's groups, will cause an uproar of protest over likely abuses from a small minority of licensees with no FCC rules to provide guidelines or standards in these areas. Hence, licensees will bear the brunt of attacks as they proceed on an "ad-hoc" basis to develop procedures and deal with citizens' complaints in these areas. In a typical "knee-jerk" reaction to these complaints, Congress would enact even stronger regulatory measures, saying in effect: "Look, we've tried total de-regulation and we created a monster of chaos, confusion, and citizen outcry."

In the long run, broadcasters and the public will be better served with revisions in the present law than they will be if total de-regulation becomes the rule of the day. The Senate bills come much closer to achieving this goal than does the House version. The public will tolerate de-regulation in broadcasting, but not to the point where it feels totally abandoned. Broadcasters today would view total de-regulation in Ascertainment, EEO, Fairness, and Equal Time as the ideal situation, however, this utopian state will be short-lived, inviting even more and tougher regulation in the future.

It is essential that the FCC maintain its present regulatory authority in these areas. Then, the public would not feel abandoned, licensees would have standards to live and feel shielded by, and there would be no need for future "Joe Califanos" to determine that a totally de-regulated broadcasting industry is "hazardous to their health."



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If a situation arises where a radio related question can't be answered by the staff, Wilson doesn't hesitate to call "real" radio people to find out the answer. He often consults radio pros to see how a certain situation might be handled at their stations. He may elect not to use their solution if it doesn't play well on camera, but the effort to make things real is true and indeed commendable.

### The Actors

Not everybody in the cast has radio experience, but they quickly learned as much as possible about the business when the show went into production. A good example is Frank Bonner, who plays Herb Tarlek, the sales manager we all love to hate. Frank is a fine comedic and dramatic actor who was awarded the Los Angeles Drama Critic's Circle Award for acting for his work in "The Sign In Sidney Brustein's Window." Since he knew absolutely nothing about radio, least of all what a sales manager's job was like, he spent a few days visiting various stations in and around Los Angeles trying to get an overall view of what a sales manager does and then making it all come to life through the slick character of Herb Tarlek.

Since a lot of people seem to recognize themselves or people they know in Dr. Johnny Fever, I asked Hesseman if the character was based on any real people. He said, "not really, but I'm sure there's a little bit of Tom Donahue in there. Certain people came to mind when I was working on the part and still do, people like Bobby Dale, Bob McClay, Rocco, Russ "The Moose" Syracuse, and to a limited extent Don Sherwood. And it's nothing specific about any of these people, it's just feelings or a sense of them as people."

Hesseman added, "In the original script they had Johnny dressed in an out-of-date suit, drip-dry shirt and skinny tie. But I had the feeling he just had a couple of pairs of dark cords and a half-a-dozen T-shirts, and maybe a windbreaker and a heavy coat, a couple of pairs of cardboard shoes and plenty of white socks . . . in short it could all be put in a suitcase and he'd be ready to move out. One thing I really wanted to stay away from was the visual image of rock 'n' roll jocks, the satin jackets and earrings, because I think that Johnny is basically alive in his throat. He's an old line radio man and doesn't care what he looks like."

Richard Sanders said, "The character of Les Nessman isn't really based on any radio people I know. I did spend some time here in Los Angeles visiting my friend Chuck Walsh at KFVB, the all-news station, trying to get a sense of what they do. Of course, there's no comparison between what they do and the one-man operation of WKRP. Actually the time I spent at the college station in Pittsburgh was closer to the type of thing I do in WKRP, a real rip-and-read situation. A few people have been offended that the news department of a radio station would be in such irresponsible hands. But remember, it's a television show."

According to WKRP's PD Gary Sandy, "I was being geared for radio during all of my younger years, so it hasn't been that difficult to make Andy Travis a real PD. I've talked with some of the PD's around Los Angeles, and I think the show is real enough without being too "in." We can't have that happen or we'll lose the general public." I asked about one other complaint voiced by radio people and that was no music is heard on the station's internal speaker system during scenes. Gary said,

"That's for a very good technical reason. If during the editing process they want to lose a line, we'd have to lose a piece of the music as well. That would create a very abrupt cut in the song for no apparent reason. It's another liberty we have to take for the sake of the show. I don't think the public misses the internal music at all."

When I mentioned music, Hesseman jumped back into the conversation with an interesting comment, "I don't think most people realize that the music I pick for the show usually has something to do with what's going on in the plot. For instance, in the Thanksgiving show, which CBS in their infinite wisdom decided to air on Halloween, Mr. Carlson dumped the live turkeys out of the helicopter. I chose to come out of the bit with Creedence Clearwater Revival's 'It Came Down From The Sky'! So for the people who pay close attention there's an extra bit of meaning in the song titles as well. I think the more we use radio and the music for the jokes the better the show is going to be. And it can be subtle, like the song titles. I don't think you have to hit people over the head with a joke."

The mention of the turkey episode got this response from Hugh Wilson: "The turkey idea came from Gerry Blum at WQXI, and it was fantastic because it really happened." I asked Hugh where the script ideas originate and he said, "We occasionally get ideas from radio people, but basically we have a staff of writers who are responsible for turning out the bulk of the scripts and coming up with the story ideas. It's extremely rare, but we do occasionally accept a script from the outside. But only three or four in an entire season."

When I asked Gordon Jump about his portrayal of Arthur Carlson he said, "I think the picture that I've tried to portray is the picture that, as an underling, I saw. But I think that management does much more than we ever give them credit for. They have to carry the burden of responsibility under considerable pressure. But I think there are good qualities in Arthur Carlson, not all bumbling bad management procedures. He's a sympathetic person, and basically a good person. But you can't have a comedy if he's really good at his job. He's got to be a little off-base to be funny."

It was evident during my conversations with the actors and production staff that they are in love with WKRP. They really feel it's a quality show and deserves to stay on the air. And as Gary Sandy said, "Not so much for my own financial security, but because it's a damn good show."

### Putting It On Tape

The actual production of the show is very similar to most live audience situation comedies being done today with a few variations. The five-day work week begins on Monday when the cast gets together with the director, producer and writers to read the script cold for the first time. Also present are the prop people, the costumer, the set designer, stage manager and anybody else essential to that week's show.

The director of the episode being done while I was there was Rod Daniel, another Atlanta veteran who adds a lot to the feeling of southern hospitality that prevails on the set. Rod was a noted director of TV commercials before joining the staff of WKRP and in less than one season went from post-production supervisor to associate producer to director, and during the 1979-80 season will be co-producer with head writer Bill Dial.

After the initial reading on Monday morning the cast moves to the actual WKRP sets that fill GWB's stage 4 to begin rehearsal. The writers will be re-working scenes and lines for the next couple of days so the actors basically work with the director on blocking the moves and rehearsing the scenes as written. If additional sets are required it's during this time the construction is begun and is usually finished by Wednesday.

Monday and Tuesday scene re-writes are very common and the writers are constantly trying to make the story and the jokes work even better than the original script. Official re-write night is Tuesday when the staff works late trying to finalize the shooting script. There are usually no significant changes after Wednesday because the blocking must be locked down for the impending camera rehearsal.

During rehearsal the actors will many times offer suggestions about the line readings and stage business, and since the show is a give and take situation between the actors and the director, many times the suggestions are incorporated into the finished script. The trust and mutual admiration between the cast and director is very much in evidence.

On Thursday the cameramen, soundmen and all of the other technicians are present for the first time and full scale blocking for camera and sound is completed. During this day, the director is in the control booth watching everything on the monitors. There are four cameras and the director gives each cameraman his directions and shot set-ups scene-by-scene. The associate directors are also present keeping copious notes concerning the blocking and camera positions for each scene. During the camera blocking rehearsals, the sound technicians are busy making sure they know where each actor is going to be at any given time so the boom man can follow them. The stage manager is keeping an eye on the whole production from the stage floor. He also keeps extensive notes, marking cues and keeping track of which actors are in which scenes and their whereabouts while off-camera. He confers with the director constantly.

Taping day is Friday and it's usually a long and tiring day. Beginning shortly after noon, the entire show is taped without an audience. It's done scene-by-scene with retakes and variations in line readings, very much motion picture style until the director is satisfied. This procedure does vary from other live audience shows. Most other shows tape two times in front of an audience, once in the afternoon and once again in the evening.

At the first part of the season, WKRP also taped two shows in front of an audience, but elected to go with the current procedure for some very interesting reasons. According to Rod, "We found that the afternoon audience didn't respond very well. They seemed to be pre-occupied and not really into the show. On the other hand the nighttime audience is the total opposite; they really get into the show and give an excellent response. So now WKRP only tapes once with a live audience in the evening."

"It also gives the director a sense of relief knowing that there is a completed show in the can and the actors also feel the lack of tension. When the audience show is taped they are really hot and give the audience one hell of a show," Rod said. It's also a perfect time to make any last-minute adjustments to staging or lines before the audience arrives.

>>





The networks have tried for years to come up with a believable television show about radio and have missed the mark on several occasions. Shows like "Good Morning World" several seasons back and the late entry, "Hello Larry" this season are pretty good examples of how not to do it.

But by this time, I'm sure there can't be a radio person alive that hasn't seen or at least heard about *WKRP In Cincinnati*. This new situation comedy from the Mary Tyler Moore stable has radio people all over the country making comments like, "That's just like the station I used to work for!" ... "We had a jock just like Johnny Fever!" ... "That GM is based on my boss, I swear!" ... "Our sales manager is just like Herb Tarlek!"

The week after week exploits of the 50,000 watt sleeping giant of Cincinnati that went from rocking chair to rock 'n' roll overnight has captured the attention of radio people everywhere and it seems the general public is going along for the ride. After a shaky start, against Monday Night Football, WKRP was moved into a prime CBS slot following M\*A\*S\*H and has slowly climbed into the top

10 and has been renewed for the 79-80 season.

The radio industry's fascination with WKRP was never more evident than at the recent Radio & Records Convention in Los Angeles. Hundreds of conventioners tried in vain to get tickets to the taping. When several members of the cast showed up at the convention they were mobbed by radio and record people with the questions and comments flying like machine gun fire. Howard Hesseman, who plays the outrageous morning jock "Dr. Johnny Fever" said, "I must have had my picture taken with 800 people and talked to a thousand more."

One of the most often heard comments from radio people is, "Someone connected with the show must have been in radio." And it's true, in fact there are people with practical radio experience scattered throughout the staff and cast.

Hesseman, who has had an admirable career as a comedic actor and as a member of the satirical group "The Committee," once pulled a weekend shift on KMPX-FM in San Francisco, during the formative years of progressive radio under the guidance of the late Tom Donahue. Gary Sandy, who plays the program director Andy Travis, started doing a weekend youth show on WING in Dayton, Ohio, while he was in high school. After graduation he was encouraged by his father to enter the field of broadcasting and attended the Career Academy in Atlanta to study radio broadcasting. He completed the course, but instead of becoming a broadcaster decided to pursue a career in acting and headed for New York.

Gordon Jump, who portrays the station manager Arthur Carlson, has a degree in Radio-TV communications and worked at KMAM in Manhattan, Kansas; WIBW in Topeka, and ironically in Cincinnati at the legendary powerhouse WLW before turning his efforts to acting. Bill Dial, who is head writer and next season will be co-producer, worked at WGKA, WPLO, and WSB, all in Atlanta. Bill also occasionally appears on WKRP as the station engineer.

College radio stations played a part in the lives of a couple of the WKRP staffers. Richard Sanders, who plays the news director and five-time winner of the Buckeye Newshawk Award, Les Nessman, worked at the college station while attending Carnegie Tech; and Lynn Folks who is one of the production secretaries, worked at KCSN while attending Cal State Northridge in Los Angeles, and at KGOE in Thousand Oaks, California, before joining the staff at WKRP.

It's evident that radio has played an important part in the lives of many of the WKRP staffers and most certainly in the life of the man who created the whole thing, producer Hugh Wilson. Wilson spent several years running an advertising agency in Atlanta and in his dealings with radio stations, he formed many friendships that helped plant the seed for WKRP. Wilson eventually left the agency business and headed west to get into television. He joined the staff at Mary Tyler Moore Productions and has worked as a writer, producer and director on "The Bob Newhart Show," "The Tony Randall Show," and now on WKRP.

When the Randall show was in it's final days, Wilson started putting together the basic idea for WKRP. With encouragement from MTM head Grant Tinker, he flew back to Atlanta and spent a few days at WQXI-AM and FM visiting his old friend vice president and general manager Gerald Blum. While Wilson will neither confirm or deny that WKRP's staff is based loosely on that of WQXI, people who have spent some time there, say that in some cases the similarities are remarkable. But then again, most radio stations can make the same claim.

### It's Only A Television Show

Hugh Wilson says that he is fascinated by radio, that he loves the medium, and that he is living out some fantasies through the show. But he kept reminding me, as did many of the staff and cast, that WKRP is a "television show," a situation comedy that revolves around the lives of a group of people that just happen to work in a radio station. It was emphasized over and over again that WKRP is not a radio station, it's a television show. They do everything possible while writing and producing the shows to keep the radio elements as real as possible, but because of the limitations of doing a half-hour situation comedy, the show sometimes presents things a little differently than "real" radio. The general public perceives radio stations a little differently than most of us in the business and after all, the general public is what will keep WKRP on the air and not radio stations. Things like dead-air, the lack of headphones, and improper use of the equipment are things the public does not perceive as mistakes and therefore are really not important.

I specifically brought up the point of the DJs not using headphones and the answer is so simple I can't believe I didn't think of it myself. The public doesn't really know what goes on in a control room. How many times have you had a visitor in the control room and when you opened the mike and the muting system shut off the speakers, they were mystified? If the WKRP control room operated like a real studio when one of the jocks opened the mike to talk the music could not be heard and the viewing audience would not realize the jock was talking over the music. Certain liberties must be taken to make the show work. >>

For the past five years **Rick Scarry** has been the program director of KGIL-AM and FM in the San Fernando Valley area of Los Angeles, but his career has spanned all areas of the broadcast industry.

He is an actor, writer, and director with many national television credits and produced two award-winning films on the History of Radio.

Rick's face is also familiar from many television commercials. He's been seen nationally for McDonald's, Buick, Hunt's Tomato Paste and many others.

His radio background started at WDLR in Delaware, Ohio, in 1963 and over the years he has worked at WWGO in Erie, Pennsylvania; KUDU in Ventura, California; KEZY in Anaheim, California, and KDAY in Los Angeles, among others.



The first taping session is usually completed about 6:30 p.m. and the cast and crew break for dinner. Outside, the audience is beginning to queue up for the 8:00 p.m. taping. Around 7:30 the audience is admitted and Hugh Wilson turns from producer to emcee and personally handles the warm-up until tape time. Wilson, whose warm southern personality shines all the time, fields questions from the audience, explains some of the technicalities, and in general makes sure the feeling is warm and positive in the studio. He encourages the audience to have a good time and most of all, to laugh.

In the control booth Rod is preparing for the

session and confers with associate directors Linda Day and Ginger Grigg. At his left is technical director Mike Maloof. During the taping Rod will designate the shots for the rough cut version of the show. This version is also shown to the audience on the hanging monitors so they can get an idea of what the finished show will look like.

On the studio floor Hugh is still entertaining the audience when stage manager Buzz Sapien gives the two minute warning, the lights come up and the cast takes their place in the sets. Buzz says, "Tape is rolling." He then counts down the seconds and the show is underway.

The show is taped play-style, straight

through, with only short stops for wardrobe and set changes. The taping goes very smoothly with the only fluff coming when a 10 K light burned out in the middle of a scene. It was quickly repaired and the scene picked up a couple of lines back. One impressive thing about the taping was the absence of cue cards. Every actor knew his lines and didn't need the crutch of cue cards that some sit-com actors can't live without. Even more amazing was the fact that some of the major lines were changed just before tape time and they still didn't use cue cards. The cast of WKRP is made up of real pros.

During the short stops in shooting, Wilson becomes the emcee once again and keeps the energy level up by giving away gag gifts, cracking jokes and telling stories about the cast. By 9:15 p.m. it's a wrap, the audience departs and the cast and crew breathe a welcome sigh of relief. But come Monday it starts all over again.

### Post Production

During the weekend following the taping, the two-inch video tapes are dubbed down to 3/4" cassettes and returned to the production office on Monday morning. The tapes are then viewed by the producer, the director, the associate directors, and the editor.

The director's rough-cut version is used as a guide and notes are taken regarding the available angles on the other tapes that might improve the scene. Suggestions that will improve the flow and pacing are made at this time, then the tapes are sent to post-production. I then went with editor Ed Brennon and associate director Linda Day to Producers Services in Burbank, where the 3/4" tapes are edited using the CMX System 50 console.

For the next couple of days Ed and Linda begin cutting the show to time. They replace lines from the isolated cameras, eliminate some lines entirely, and in general tighten the show to the specified air time of twenty-three minutes (excluding commercials).

Rod then comes in to view the tightened show and makes further suggestions for cuts and angles. He even put back in a joke line that was cut out the previous day. He leaves the instructions for further editing and returns to the studio. Ed and Linda complete the editing, Rod returns and approves it, and then the titles and credits are added. Once this is completed, the 3/4" cassette and the two-inch tapes are taken to CFI in Hollywood, where the two-inch tapes are auto-assembled to match the 3/4" cassette. When this process is completed the tape is then sent for sweetening. Here the laughs are punched up if necessary and all sound problems are corrected. The tape is then sent to CBS for airing.

When the whole process is completed, the show that is sent to CBS for airing will be about 80% of what the live audience saw with only minor changes. A very good average and a tribute to the cast and crew.

### The Ratings Game

Of course, the good news for WKRP is their renewal for the 1979-80 season. But the ultimate fate of *WKRP In Cincinnati* will depend on the same thing as "real" radio... the ratings. Ours is Arbitron, theirs is Neilson. But the end result is the same — good numbers you stay on, bad ones... goodbye. I think the radio industry in general is pulling for WKRP because we know what it's like. Doing radio on television is something else. ■

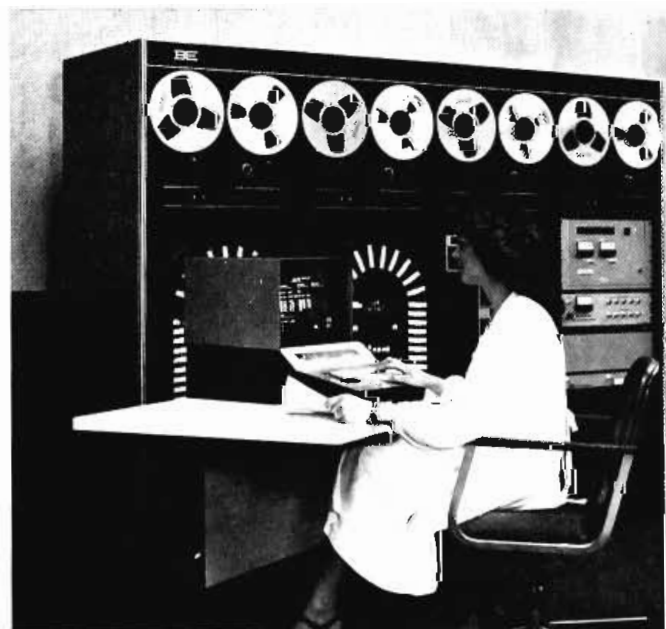
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he said, "put WNAC-TV in the vanguard of the nation's TV stations. We have done what the industry is going to be forced to do sometime in the near future. The necessity for a 'clean' over-the-air product is of paramount importance and the interface between the technical and business systems will insure that WNAC-TV will be able to offer its audience as perfect a production operation as is now available in the industry. For the business side, the BIAS system has more than proved its value in terms of efficiency and cost savings since it was first installed at WNAC-TV in 1975 and we think that the introduction of the 'Total Automation' system will further provide our operation with a competitive edge which is so important in a market such as ours."

For Data Communication's BIAS division, the successful interface of the WNAC-TV technical-business systems is a dream come true. BIAS, which broke on the station automation system scene in 1970 with its "real-time, on-line" concept, has rapidly achieved a dominant position in the industry it serves. To protect this dominance, BIAS has devoted much of its time and money in research and development of future needs of the broadcast industry, particularly in the area of total automation.

What specifically does the new BIAS interface offer to TV stations? Jim Ziegler, then VP engineering for the BIAS division in Memphis, Tennessee, outlined the operations of the new standard automated interface.

"Anytime you're dealing with computers," said Mr. Ziegler, "there exists a data base which contains all data relating to your business. At WNAC-TV the data base is maintained by BIAS. Before introduction of the automatic switching system, traffic was only required to input all spot orders and commercial instruction entering the name of the advertiser, the length of the spot and the media. Take, for example, a 30-second spot for Acme Soap on videotape. Ultimately the Master Control engineer on duty would consult his operational log and roll the right commercial at the proper time. Exact timings of each log element were not essential. With a fully automated technical operation, the computer must not only know what commercial runs, but detailed instruction as to the time and content of each commercial/program element on the log.

"Consequently, the traffic department is asked to spend a few more hours each day timing out the log and inputting more detail on commercial media. The extra time spent on this function is more than compensated for in man-hour savings in the engineering area and in accounting. The engineering savings are obvious . . . and accounting is relieved of most spot reconciliation duties, as the automated system records all log affidavit data and transmits it back to the BIAS computer for future invoicing."

To better understand the entire process, it might be helpful to trace the flow of data between BIAS and WNAC-TV. The BIAS computer center is located in Memphis, and is made up of four Burroughs 6700 tri-processors, and a Honeywell MULTICS system. The BIAS system is an on-line, real time service, with each of its 160 customer stations accessing the computer via a Data General Nova mini-computer based terminal configuration.

At WNAC-TV, the traffic department's BIAS terminal set-up included a Data General



**Jim Ziegler, vice president engineering, Data Communications Corp., holding the mini-computer he designed for BIAS Systems.**

Nova 2/10 mini-computer, four CRT's for input/output, and a medium speed printer. The BIAS mini is hard-wired to the DEC PDP 11 mini-computer (in master control), which is the heart of the station's CDL 100 technical automation system. Also found in the master control area are two DECWRITERS (low speed printers), which are used to print out the affidavit, FCC log.

The interface between BIAS and the CDL switcher allows the machines to exchange data as need dictates. A typical day's routine would go something like this:

- 1) The traffic department enters all sales and programming data, setting up the log in the BIAS computer (in Memphis).
- 2) A printed copy of the log is pulled in traffic and copies are given to engineering.
- 3) When ready, engineering requests the given day's log data via a CRT located in the master control area.
- 4) Acting on the message, the BIAS computer sends the requested log data up the line to the CDL system where it is dumped on a "floppy disk" for storage. Note — the CDL floppy disk can hold up to 30 day's worth of logs.
- 5) The CDL automated switcher calls up log data, off the disk, as it's needed throughout the broadcast day.
- 6) Once the log events are aired, these transactions are recorded on the floppy disk for storage, and are also printed out in FCC log format by the DECWRITER.
- 7) When a full day's log has been aired, and the data recorded on the floppy disk, engineering can release this spot reconciliation to the BIAS computer where it will later be used for invoicing. The station's invoices are generated by the BIAS system.

It should be noted that there will always be a manual override for all work required of the master control automated switcher. Safeguards and status reports are built into both systems, CDL and BIAS, to allow station personnel to monitor the flow of data.

WEWS-TV, Cleveland, Ohio, became the

second BIAS customer to experience "total automation." This came right on the heels of the success of the pilot operation at WNAC-TV. At WEWS, the technical side of the link-up is more exotic; a Grass Valley Group series 1400 switcher driven by Vital Industries, Inc.'s VIMAX 200 software package.

The conversion began on April 18th with John Moore and Madeline Simonetti representing BIAS. On April 27th the station ran its first "live" automatic switching log. Also on that day, the physical link-up between BIAS and the automated master control switcher was accomplished.

Unlike WNAC-TV, WEWS did not run a parallel operation, but decided to trust the computer and proceed with an automated environment. That first day was a bit shakey and only portions of the program schedule were run on the automated switcher. But within a few days, the engineering department felt more comfortable with the new more detailed BIAS automatic switching log, and the full day's schedule with the exception of local news, was aired by the computer.

WEWS' vice president and chief engineer, Jim Boyd, has long been interested in total automation: "We looked strongly at automation back in the 60's . . . we wanted total automation at that time, but due to the inexact timings of the commercials [films, VTRs] an automated switcher would have chopped a spot at exactly 30-seconds if the log called for a 30."

Boyd says the link-up between BIAS and his automated switcher went smoothly; "I've been impressed with the way both the BIAS and Vital people responded to our project." He feels advance planning and an extensive educational effort are partly responsible for the successful installation. Quoting Boyd, "Getting all parties together; WEWS engineers, sales and traffic personnel, plus BIAS and Vital people, well in advance of the conversion is the only way. I feel our transition would have been smoother if we had begun working with the more detailed BIAS log before we actually went live with the new switcher." He credited cooperation between the engineering and traffic departments as a major plus factor.

George Cerveney explained the activities during conversion. "During conversion, the traffic area was really in turmoil. At first we thought we needed more people and an additional CRT in traffic. But I decided to wait until we got accustomed to the new routine, and now we've found the extra CRT is not needed.

"In my opinion, it's extremely important to have as much advance knowledge of the automated switcher, for instance, we were told to expect begin and end cues for all log events, but our switcher only recognizes begin cues. These technical capabilities now mean a great deal to traffic.

"With the conversion two months behind us, the traffic department is back to normalcy. At this point we're keeping an open communication with engineering, and we're all trying to fine tune our operation."

How will total automation affect the station's workload? Jim Boyd feels the new operation will more than likely have a greater impact on traffic than engineering and he says, "Hopefully, automation will reduce our workload in master control. I see it as a savings in engineering overtime costs."

Ed Cervenak, WEWS general manager, said



enter the broadcast computer era . . .

## **BIAS** **(Broadcast Industry Automated System)**

When you've got a great idea, but the field you're interested in is loaded with names such as IBM, Westinghouse, GE, and others you might think twice — or even three times — about testing the competitive waters with a new service idea. Right? Wrong!

At least it's wrong where Norfleet R. Turner, a Memphis banker by profession, is concerned.

Mr. Turner, a senior vice president of the First National Bank of Memphis, had an idea which developed from a problem his bank had solved for a local TV station in Memphis. The general sales manager of WMC-TV, Jim Frommel, had come to him and asked if the bank's computer system could handle the tremendous volume of data on TV spot sales which was threatening to inundate his station staff.

Between the two of them, using the modern computer facilities at the bank, they created a program which not only solved the problem for station WMC-TV, but also greatly decreased the number of "makegood" errors caused by manual mistakes. This resulted in increased revenues for the station.

Intrigued by the success of the software program the computer programmers had devised, Mr. Turner did some investigating and found that nearly every TV station in major markets was faced with the same problem.

Further inquiry indicated that Westinghouse, IBM and other electronic specialists had ventured into the field with little overall success.

In 1969, Turner decided to become a television entrepreneur. He left the bank, and launched Data Communications Corporation.

Using the Memphis TV station as its pilot model, Mr. Turner and a group of young computer technicians and sales people, developed a computerized service that would eliminate billing errors and streamline the administrative operations of TV stations.

For two years Norfleet and his crew haunted the major conventions of the broadcasting industry with little success. Broadcasters are well known for their "let Charlie — or anyone else — do it first," syndrome and their service was met with a tremendous skepticism, much of it engendered by the national names that had failed to solve the same problems.

In this case the broadcasters had reason to be skeptical. Up until that time there had been about two dozen separate attempts to solve this problem via a wide variety of automated offerings from a wide variety of companies, and it had cost the broadcasters more money than they cared to talk about.

"It was a tough nut to crack," said Mr. Turner, "and we were getting discouraged. It wasn't until the 1970 NAB Convention in Chicago, that we finally broke the ice."

And the ice was broken with a little help from an outside source as distant from automation as Memphis is from Timbuktoo. Mr. Turner, prowling the lobbies and meeting rooms at the convention in search of potential customers, bumped into an old friend from Memphis, Marguerite Piazza. Miss Piazza, a television entertainer and opera star, was at the convention to perform at the gala dinner. Mr. Turner told Miss Piazza his problems of getting recognition for his computerized system and that due to a lack of funds they couldn't afford exhibit space.

It turned out that Marguerite had many influential acquaintances in the broadcasting industry and began a one-woman campaign to round up potential customers. Traffic in the small DCC suite picked up tremendously. One of those corralled — a station owner from Wilkes-Barre, Pennsylvania, and a graduate engineer from MIT — David Baltimore agreed to give the system a try.

Like the proverbial snowball rolling downhill, Data Communications Corporation and its sole subsidiary, BIAS (Broadcast Industry Automated System) began to grow more rapidly than they had hoped or thought it could.

In 1970 the company's gross had been about \$180,000. In 1975, it shot up to over \$7 million and this year is expected to surpass \$12 million. The Wilkes-Barre engineer, Mr. Baltimore, became one of the company's most outspoken admirers and in five years the BIAS division of DCC had installed its system in over 200 TV and radio stations throughout the country.

Over the years, BIAS has been an innovator in the Broadcast Computer Field. It has been a prime mover in the broadcast industry's move to total automation for all of its operations. One of its first such successes was in 1977, when WNAC-TV, Boston, the CBS affiliate in the market went on-air for the first time with a total automation system.

The interface which finalized the ultimate step in the development of WNAC-TV's total automation design was the hook-up between Data Communication's BIAS system, and the master control technical switcher used by WNAC-TV and manufactured by CDL, a Canadian firm. This was one of the first total automation interfaces successfully accomplished by an affiliated network station in a major market and may well signal the beginning of a move towards total automation by other major market stations throughout the country.

Perhaps the most important aspect of the total automation system at WNAC-TV is the standardization concept BIAS has perfected which will allow the interface of BIAS's computer with the technical switching systems of most TV stations. The three major master control switching manufacturers are CDL, Grass Valley, and Vital Industries. BIAS has

developed a standard interface which can be utilized with any of these systems. Until this standardization was developed, the few total automation systems currently in operation in the U.S. have been the results of custom designed systems for specific types of equipment with little usefulness to the overall technical needs of the broadcast industry. Thus the introduction of the BIAS system opens up a whole new potential for many TV stations regardless of the type of master control switching equipment in use at a station.

Data Communications Corps' BIAS has been working on the standard interface since 1975. The systems vendors had been wrestling with the technical automation problem since 1960 and when the minicomputer made its entry on the scene the resolution of the manufacturer's problems were largely overcome. In 1975 the state-of-the-art had progressed to the point that a viable interface between the technical systems and the business systems was possible.

BIAS, which had pioneered the "on-line, real time" concept of intercommunications via a 45,000-mile network of dedicated telephone lines, had emerged as the major broadcast service supply system with over 200 radio/TV stations on the client list. With broadcast operations of all sizes switching to automation to alleviate the pressures of rapidly rising station inventories and the increasingly complicated technical switching needed to maintain quality of transmission, BIAS conducted a crash research engineering program to provide the final link in what was to be a new total automation concept.

The entire year was spent in the development and testing of the software needed to accomplish the interface between the business and technical systems and during the year BIAS received acceptance from the three major vendors of technical, master control switching systems on a standard set of interface specifications. The final touches were added to the CDL system by WNAC-TV engineers in November, 1976 and in January, a BIAS team arrived in Boston and began the installation of the new BIAS computer programs for the total automation interface. One month later the software programs were completed and in February, WNAC-TV went live with its total automation system. For the first three weeks the system was tested during the morning and early afternoon hours reverting back to manual at 5:00 p.m. On February 28, the new system took on the full operation of the station's activities, sign-on to sign-off.

For WNAC-TV, the finalization of its total automation program via the interface of the CDL-BIAS systems, was a goal towards which the station had been working for several years. S. James Coppersmith, then VP and general manager of the RKO-General station said: "We've achieved what we feel is an 'ultimate' position in broadcast operations. We have invested considerable time and money in the 'total automation' proposition because the economics of broadcasting have dictated such a course for the future. Our purpose is to offer the finest operation both for our TV audience and our advertisers and total automation is the only way we can serve both of these demanding publics."

WNAC-TV executive Dave McCracken pointed out that WNAC-TV had been using the BIAS system for its business and traffic operations since 1975 and that its transmitter operation was also automated. "The final step,"

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for simulcast and local shows need only be entered once and maintained by one station whose responsibility would be to update the information automatically; copy information for simulcast spots need only be entered once; ability of each station to do prep work and printing of the log at each station site; ability of log to reflect only those spots to air on station originating the log with a "feed" column to show all stations depending on station policy. The system also enables each station to print its own daily log reconciliation, print invoices, and complete monthly reports on a single station or combined basis.

"If you'll pardon the pun," said Terry K. Shockley, general manager of WKOW-TV, the flagship station of the Horizon Broadcasting Company, "we have expanded our horizons considerably with the computerized interconnection of the three stations on our Mini-Network. The new system has cut down on our paperwork considerably, allowed us to follow a course of truly sophisticated selling, and has given us far greater control of manpower, overtime, program costs and other operational activities than we've ever had before."

BIAS has not confined its imaginative innovations to the television industry however. Although the BIAS division of DCC has been serving radio stations as well as TV stations for the past several years, they were not satisfied with the radio system as it was, and two years ago began research and development of a new system, specially designed for radio stations by experts in the radio operations field. In 1979 the first pilot of the new BIAS-Radio System was unveiled at the Plough Radio Stations, WPLO-AM, WVEE-FM, in Atlanta.

The new BIAS-Radio System has been

under testing and experimentation for the past two years under the guidance of Terry Bate, the well-known British radio executive and consultant to Data Communication Corps' BIAS division; Jim Cook, vice president, Research and Development for BIAS-Radio and Herbert T. Hughes, executive vice president for DCC. Utilizing one of DCC's four computers, a Burroughs 6700, for conceptual radio work, a total orientation, theory and operation for a radio service system was developed with the total orientation on a "radio only" basis.

In January of 1979, Terry Bates conducted a seminar at the Memphis headquarters for interested radio executives. Mike Eguchi, Information Systems manager for the Fisher Broadcasting Company, was so impressed with the new radio system that, immediately on his return to Seattle, he talked with top management of the Fisher stations concerning the system. The first week in February, BIAS-Radio consultants began work on installing the new system for KOMO-AM, and on February 12 the station was fully operational.

Both Monty Grau, KOMO-AM station manager, and Eguchi are enthusiastic about the new BIAS-Radio System. "The new system seems to address the traditional problems inherent with any radio traffic department," said Mr. Grau. "Specifically, that of spot rotation, continuity control and the immediacy of spot availability. In addition, the array of reports give broadcasting management a constant reference for use in the attainment of revenue projections and sell-out levels. BIAS, with whom we've worked closely on program design over the past year has been very responsive to the needs of radio. The result

looks to be a very workable and informative radio system."

Mr. Eguchi, who, as Information Systems manager for all Fisher stations has been working with BIAS Television System in both the Seattle and Portland TV stations, said, "A great deal of thought, research and preparation obviously went into the new BIAS-Radio System. It looks to be a complete radio computer system designed for the radio broadcaster and advertiser for today and tomorrow. The immediacy and necessity of accurate and updated information has been made much easier to obtain with the new BIAS-Radio System."

The new radio automation system continues the tradition of the BIAS system as an "on-line, real-time" operation. It uses either the micro-computer or the mini-computer and many programs, common to both radio and television, that have already proven their viability. However, it also uses many new programs designed specifically to serve the unique needs of radio.

Programs exclusive to the BIAS-Radio System include a new Order Entry System, which, according to Jim Cook, is based on an entirely new concept; a program which stresses "time" rather than "breaks" and easily accommodates "hot clock" stations which fill breaks by priority; an ability to enter preferred times within the time specifications of a line ordered. For clients sponsoring radio program segments, such as local news sportscasts and traffic, weather or market reports, breaks may now be coded for these special segments and orders entered or availabilities requested for the appropriate break codes.

According to Jim Cook, the BIAS-Radio System offers a new "step rotation" plan which allows maximum utilization of reach and frequency for package plans. "Perhaps the most important features of our new system," said Mr. Cook, "particularly for management and sales executives, is a detailed weekly and spot analysis report with the potential of providing a constant monitoring guide of individuals' sales performances. This feature, an exclusive with the BIAS-Radio System, provides management with tight controls over budgets, revenue and inventory and offers an instant progress report on all salesmen."

Proof that the "Better Mouse Trap" syndrome is still valid can be seen in the overall growth Data Communications Corporation has enjoyed since 1971. BIAS is no longer its sole division. The Memphis computer communications firm has branched out in a big way. Its corporate umbrella now includes: a Mini-Computer Division, for general computer services; a Dataform Company, which handles computer form and supply needs. The Datacom Company, which handles the communications needs for the Broadcast Division as well as outside customers, and the International Division, which was established in London in 1977 to supply the mini-computer market in Europe. DCC also has an ownership share in the London-based Broadcast Data Services which already has contracts with London Weekend Television, and Radio City Liverpool for broadcast computer services.

The company has grown from about 50 people in 1971 to over 200 in 1979 and Mr. Turner, ever on the lookout for another challenge, says, "This is only the beginning. The communications and information fields are on the threshold of another revolution — and we'll be right there when it happens." ■

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that Scripps-Howard Broadcasting Company has long been a pioneer in the development of new methods of operation, as exemplified by WMC-TV and the BIAS development. "This installation at WEWS is simply an extension of that continuing effort by Scripps-Howard Broadcasting to be the leader."

DCC's BIAS division, however, is as versatile as it is innovative. Horizon Broadcasting Company, which operates three TV stations in Wisconsin, (WKOW-TV, Madison, WAOW-TV, Wausau and WXOW-TV, La Crosse) in a sort of mini-network, wanted to tie-in all of its stations via computer for increased efficiency.

They contacted BIAS which created a new concept called the BIAS Satellite System; a concept specifically designed for TV stations which operate additional properties away from the main station. In the Wisconsin tie-in system, WKOW-TV is the station for the mini-network and feeds its ABC-TV programming to both WAOW-TV, Wausau, and WXOW-TV, La Crosse, on a simulcast basis. About 95% of the programming for the La Crosse and Wausau stations originates in Madison with news, weather, sports and public service programming making up the 5% of the local originations at the other two stations.

The configuration for the Horizon Mini-Network system consists of a mini-computer, three CRTs and two operational printers at the flagship station, WKOW-TV, with each of the other stations utilizing a Micro BIAS processor, two CRTs and an operational printer. All three stations are linked directly with the BIAS host computer in Memphis, and each has access to the host computer and the computers at each of the stations. Thus, no prior order clearance through the flagship station is needed from either of the other stations.

The ability of the salespeople at each of the stations to ascertain availabilities for all three markets has also been a major boon according to Selenka, and the instant communication now available between the three stations and their staffs, via the computer terminals, has enhanced the teamwork aspects of the overall operation. "We used to lose spots via manual operations," said Selenka, "or have spots run at the wrong time. Most of this has been eliminated. Prior to the installation of the BIAS three-station interconnection, all availabilities were phoned in from the stations two-to-three days before they could be assembled and properly scheduled. Now all the salesman has to do is punch up his order and get his approval almost instantaneously."

The BIAS Satellite System in use at Horizon Broadcasting Company's Mini-Network in Wisconsin is a pilot project which is being made available to other TV stations operating separate facilities in similar mini-networks or group operations according to Scott Pierce, president of the BIAS division of Data Communications Corporation.

The widely expanded capabilities now possible via the new computer system for each of the stations includes: Sales; Automatic updating at all sites at the time of entry; All orders written and entered directly from the selling station and coded to include the airing station or stations; Total Inventory Control on a per station basis; Ability to print all contracts at each station site; Sales projections at each station which can be pulled as combined totals or station-by-station projections.

In the traffic area programming information

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AMPEX

AMPEX ATR-700



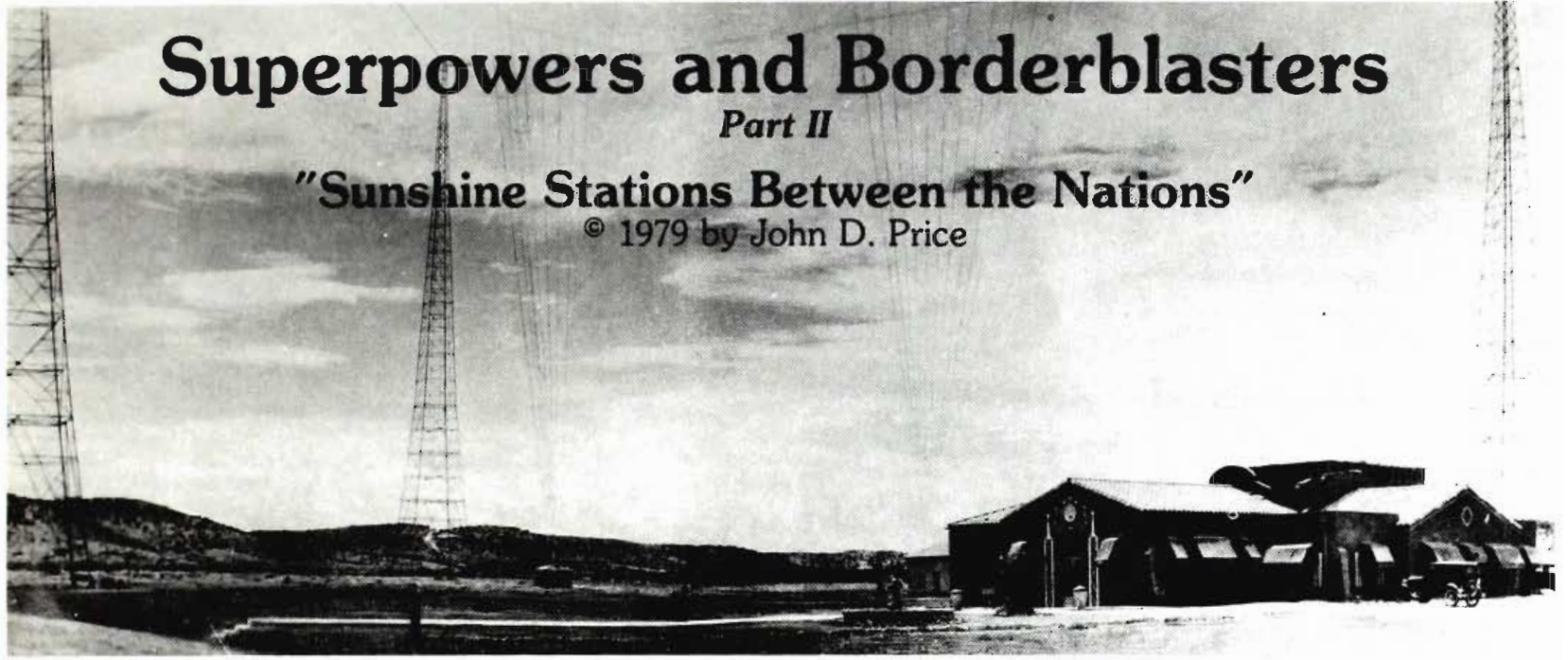


# Superpowers and Borderblasters

## Part II

### "Sunshine Stations Between the Nations"

© 1979 by John D. Price



John Romulus (aka Richard) Brinkley was not a great man in the mold of Abraham Lincoln, Winston Churchill or W. C. Fields. But, like them, he was a leader of men, knew how to speak their language, and was aware that the world is composed of "oxygen, nitrogen and bullshit."

That he trod our land from 1885 until 1942 has directly influenced the daily life of you as an American broadcaster. It has also molded the modus operandi of American doctors, the AMA, the FCC and the FTC, not to mention our electromagnetic relations with Mexico.

It may also be the cause of your suppressed desire to bleat openly at the full moon.

Dr. Brinkley has been called everything from a quack to a savior. Perhaps the best adjective is "successful." Anyone with \$150,000 worth of diamonds on his person, a fleet of Cadillacs outside his mauve mansion, a state-of-the-art airplane and a yacht with a twenty-one man crew is certainly winning the bread.

He did it with goat glands. And prostates. And one of the biggest radio stations ever powered up, though reports that it set the chaparral on fire in South Texas are somewhat exaggerated.

But we are digressing. Let's start at the beginning.

John Brinkley was born on July 8, 1885 in:

- A. Tennessee (from his Connecticut medical license application).
- B. Kentucky (Arkansas application).
- C. North Carolina (Texas application).
- D. All of the above.

His mother was:

- A. Not remembered.
- B. Dead by his sixth birthday.
- C. Fondly remembered.
- D. Bade goodbye at her deathbed.

Doctor tended to vary his vital statistics, among other things. The best guess is Beta, North Carolina (since deceased). The beginning was poor, there is no doubt: a log cabin with a potato patch out back and hollyhocks by the front door.

John was raised by an uncle and aunt, attended school in another log building at East LaPorte (since deceased), or in Tuckasiegee (since deceased). The first town that seems to have withstood his childhood is Sylva, where he worked as a telegrapher for the Southern Railroad. John's early roamings carried him to Dandridge and Knoxville, Tennessee, too.

In 1912, Brinkley had a sort of learner's

permit in Tennessee. Yellowed pages of the *Knoxville Sentinel* show Dr. John R. Brinkley associated with a Dr. Burke, both urging male members of the community to visit their "men's specialist" clinic. Visitants were lead through a museum containing graphic papier-mache examples of just How Bad It Can Be. By the time the examining rooms were reached at the rear of the store-front even the most robust farmhand could be reduced to a mass of sickened, infected tissue.

By 1913, there was a Mrs. Brinkley and three little girls. The parting was stormy, and included an intra-family kidnapping. After a night flight to Canada, Doctor used his little Wanda as a hostage to gain concessions from his wife. Soon after, Sally Brinkley left Doctor for good.

He met Minnie Telitha Jones at the home of her father, Doctor Tiberius Gracchus Jones, in Memphis. She soon became the second, and final, Mrs. Brinkley.

With James E. Crawford, whose credentials were as impeccable as his own, he founded the "Greenville (South Carolina) Electro Medic Doctors" until the credit line ran out. They split, and the Brinkleys drifted to practices in Judsonia, Arkansas and nearby Earle. His diploma from the Eclectic Medical University of Kansas City was "awarded" on May 7, 1915.

Professor Date/Alexander of that august institution was awarding lots of them — to telegraph operators, chauffeurs, bartenders and railroad brakemen. A reporter once wrote that medical diplomas were going for \$200 there. "That's a deadly insult," Professor told the man. "I never sold one for less than \$500!"

Gerald Carson traces the events leading the Brinkley family to the tiny town of Milford, Kansas, in his delightful biography *The Roush World of Doctor Brinkley*; highly recommended reading, especially if you suffer from a latent larceny desire way in the back of your soul.

Here Doctor decided that the pathway to success lay among the fading dreams of middle-aged men, coupled with the natural attributes of young Toggenberg (oderless) goats. Up went the Brinkley Hospital before the wondering eyes of Milford's 200-odd residents — most of whom would go to work for Doctor in some capacity. Prepared "mat stories" mailed to county weeklies were soon replaced by major features in New York dailies. And there was a good deal of extra ballyhoo

when Doctor traveled west to minister unto Harry Chandler, publisher of the *Los Angeles Times*. The paper was just finishing its new wireless broadcasting station. The call was KHJ. "Kindness, Health and Joy," a logo personified by three appropriately-named canaries which accompanied all programs from the tented studio.

The possibilities were instantly assimilated into Doctor's fertile mind. KFKB ("Kansas First, Kansas Best" or "Kansas Folks Know Best") hit the air in September, 1923, with one thousand watts. It broadcast until local sunset, sharing time with fulltimer KSL, Salt Lake City (licensed to the Radio Service Corporation of Utah). WOV, New York (International Broadcasting Corporation) also used the frequency until 6 p.m.

Doctor was a natural for radio. His North Carolina mannerisms made Middle America feel comfortable when big-city announcers were still rolling their "R's."

The Medical Question Box ushered in yet another facet of Doctor's talent. Few women, he reasoned, were directly interested in sexual rejuvenation through goat gonad transplants (although men by the hundreds were now arriving at the hospital). So the Brinkley Pharmaceutical Association (located near the Brinkley School of Medicine, close to the Brinkley Methodist Church, near the field where the Brinkley Goats practiced for their little-league games) started both a mail-order and a wholesale drug business, shipping various bottles, boxes and jars to patients and to some three hundred participating druggists throughout the wide coverage area of KFKB's signal.

The MQB solved many problems: advice and "prescriptions" could be offered both genders; tidy profits could be realized from twenty-cent bottles of aspirin at \$3.00; and Doctor could answer the vast quantities of question mail being showered upon Milford's new second-class post office. Numbers of letters get bandied about — some are in five figures for the daily mail.

"If you are suffering from the symptoms of stomach ulcers," Doctor would warn in his very best tube-side manner, "do not go to your doctor — he may prescribe an operation that will be both costly and dangerous. But take my prescription Number 60."

Not all mail could be cured by Number 60, or any other number. "I suggest that you have

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 Manufacturer  Syndicator  Production Co.  Other \_\_\_\_\_  
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## ATR-700

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your husband sterilized and then you will be safe from having more children, providing you don't get out in anybody else's cow pasture and get in with some other bull."

And while the MQB was grossing about \$750,000 per year, Doctor also sounded the clarion call to the Milford hospital. "Watch your prostate for signs of hypertrophy and for a fibrous and sclerotic condition. If there is constipation, is there not also obstipation? Is the prostate nodular due to the presence of calculi?"

Every Sunday afternoon, Happy Harry, who did much of the knife work and also drove the bus converted from a World War I truck, arrived from the railroad station with ten or twelve impotentees. Howard Wilson would be bustling about the herd room. Dr. Osborn was busy with his charts, the Chief Surgeon ready in starry white and rubber gloves. Framed in the hospital doorway was Minnie Telitha. "Here come by men!" she would call.

While there were rough moments (one patient is reported to have escaped out the window by tying bedsheets together when Doctor settled a professional difference of opinion by slicing one ear off of Osborn with a butcher knife), Brinkley had either the foresight or luck to choose a profession that, with a few exceptions, made basically well people well. The power of suggestion often improved one's health after taking three dollars worth of twenty-cent castor oil. That same power sent Paw home to show Maw a grand old time.

Not all of Brinkley's contemporaries made such a wise decision, and one of them deserves mention here. Norman Baker's medical career would show interesting parallels to John's, but Baker followed a career of mail-order batteries, alarm clocks and steam calliope manufacturing with a different, and more deadly nostrum: cures for cancer.

Baker headquartered in the quiet Iowa river town of Muscatine. He published a magazine called *The Naked Truth*, and backed it up with powerful KTNT, a 5,000-watt daytimer which shared the 1170 channel with WCAU, Philadelphia. He also opened the KTNT Cafe, KTNT Oil Station, an advertising agency, a correspondence school, the Western Drug Company . . . and the Baker Hospital.

His institution fooled around with varicose veins and "aluminum poisoning," then happened on a paste manufactured to remove knots from horses' knees. It became his cancer cure.

Five test cases submitted to the treatment. *The Naked Truth* and KTNT trumpeted their miraculous return to health for years after all five had died. Worse, many who may have been helped by timely surgery passed the point of no return as they paid their life savings to Baker, who never practiced medicine or surgery himself, and whose hospital never dismissed a patient as "cured," only as "improved."

John Brinkley's patients came looking for the fountain of youth. Up in Muscatine, the anxiety of the terminally-ill pilgrims to the shrine of St. Baker must have been heart-rending.

Slowly the wheels of justice began to turn. One month after *Radio Digest's* annual readers' poll pronounced KFKB as the nation's most popular radio station, the telegram arrived. Baker's KTNT got a similar wire about the same time. Neither, thought the Federal Radio Commission, were serving the "public

interest, convenience and necessity." Medical boards were closing the doors on eclectic schools in general and eclectic licenses in particular.

By 1930, John R. Brinkley and Norman Baker had run out of appeals and courts. The stations were silent, the clinics closed — at least in Kansas and Iowa.

But neither man was a quitter. Nor did they suffer from meekness. *The Naked Truth*: "Muscatine is not a large city, but it is the birthplace of Norman Baker. And Bethlehem was smaller still."

The history of borderblasters can be traced back to the summer of 1930, when the old Federal Radio Commission was hot on the trail of all manner of noxious peddlers-of-the-air. The Magic of Radio was very real, verging on miracle status along the back roads of America, replacing the revival tent, the dog-and-pony show and the medicine wagon.



World Wide Photo  
**The Goat-Gland Man — John R. Brinkley, gland surgeon whose political actions, broadcasts and acrid tilts with medical associations kept him in the public eye for years. Photo was taken May 12, 1941.**

The radio laws south of the border did not attempt to legislate morals, science or even common sense, and a station located there could do as it damn well pleased. So two Texas promoters, whose names have slipped from view, assembled the International Broadcasting Company, S.A., licensed to build and operate a 5,000-watt station in Reynosa, Tamaulipas, just across the Rio Grande from McAllen, Texas.

The money was American, but there were enough Mexican citizens as stockholders to satisfy any questions that may have arisen in Mexico City. The question of a frequency was dealt with easily, too, for Mexico was smarting over its short end of the clear-channel stick: the United States had copped a full twenty-five frequencies; Canada, with only ten million people, seven; Mexico was assigned five. Needless to say, the treaty had not been ratified by the Mexican legislature.

Though the basis for this decision is not known, crystals were ordered for 965 kc. Records of the time show that mid-channel

frequency to be halfway between the Canadian Exclusive 960, and the 970 spot used by 5,000-watt KJR, Seattle, and WCFL, Chicago, a 50 kw daytimer. It's apparent that the new station would certainly have a good nighttime shot at Middle America.

By July of 1930 a stucco building was rising between The Aztec Club and Sam's Place, about a quarter-mile south of the bridge connecting Reynosa with Hidalgo, Texas. The building was mainly a transmitter house, but also had some studio and office space. Additional studios and offices were being outfitted in McAllen. Program lines terminated at the north end of the bridge, and the Reynosa telephone company mated these with their pairs, which headed down past The Aztec Club to the new building.

W. E. (Bill) Branch, a radio engineer from Ft. Worth, was given the contract to build the new transmitting plant. It would be a "composite," transmitter talk for "home brew." But if an image of bailing wire is forming, forget it. Branch was a professional: meticulous, thorough and precise. His name will soon be connected with almost every borderblaster, and existing drawings of his facilities show everything up-to-date in Border City.

The big day for "The Voice of Two Republics" would be November 9, 1930, and the sales staff was busy. Charter accounts included the Rio Grande Valley Chamber of Commerce, Rio Grande Valley Bridge Company, South Texas Building and Loan, and the Hicks Rubber Company. Across the bridge, the Carta Blanca Beer Company bought time.

For one hundred hours, during abnormally heavy rainstorms, singers, politicians, orchestras and tourists braved the sea of mud surrounding XED's new building to speak of friendship between the nations and sing the praises of Rio Grande Valley Bridges. Sam's Place and The Aztec Club added, no doubt, to the merriment.

Festivities over, XED settled down to its regular (or irregular, as the case may be) routine. Taking advantage of nighttime skywave power and the daytime status of WCFL, the station broadcast from 6 p.m. to midnight with a full range of programming. For a while, even Amos 'n' Andy were bootlegged off the air from a nearby Blue Network affiliate, and sold to a local brewer. A few quick fades and the local beer spots replaced Bill Hay's Pepsodent copy.

Gradually the novelty of the new X station wore off, and the thin veil of doubt about the efficacy of it all caused most of the regular clients to drift away from XED. What were left were the typical X-station regulars that persist, in updated form, on many of the border stations to this day.

But there was good amid the blatant: Jimmy Rogers, Honey Boy and Sassafras, and Briar Hopper picked and sang from the McAllen studio — the resultant hillbilly music being described as "uncommonly good" in one contemporary account. One American announcer-engineer team was usually on duty between Sam's and The Aztec. Other employees were Mexican nationals. Most Gringo music and programs came down the line from McAllen.

Rumors coming up the river came true in July of 1931. One Doctor Brinkley, late of KFKB, Milford, awarded another contract to Bill Branch: this time for a 75,000-watt whopper at Villa Acuna, across the river from Del Rio.



# SSIONAL

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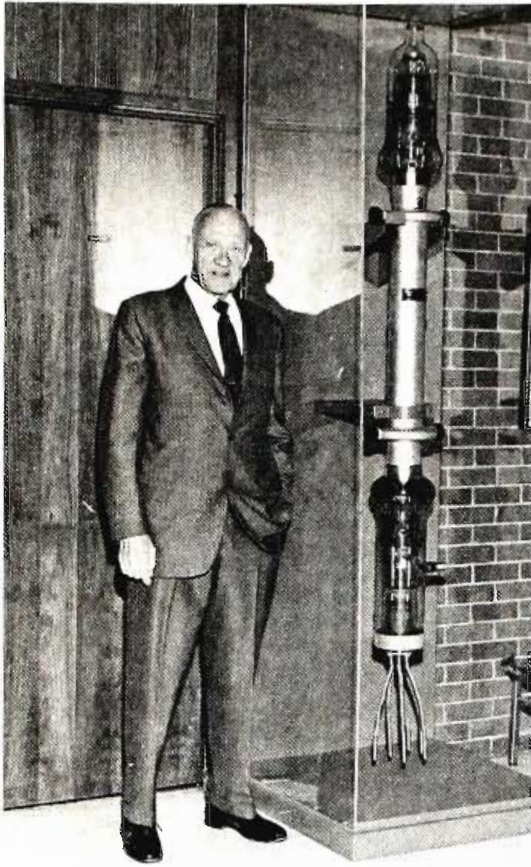


Photo Courtesy Continental Electronics

**XERA Finals — Surviving example of the Western Electric 320A final tubes used by James O. Weldon, on display at Weldon's Continental Electronics, Dallas.**

As the sun sets slowly over the XER towers, let us return to Reynosa and the Mighty 965, where not nearly enough is going on. Expenses have been cut to the minimum. Records have replaced the billies and marimba bands.

Enter one Will Horowitz, theater-owner Houston-style.

Horowitz pumped up the XED coffers and initiated a sure-fire winner that could only go on a borderblaster: A lottery! It was all on the up-and-up in Mexico — the Tamaulipas State Lottery was government-sanctioned and could care less if Gringo dollars mixed with pesos at \$6 a ticket. Each month a first prize of \$1,500 was given to the lucky ticketholder, with others winning proportionately smaller sums. XED cooperated by calling the winners if they lived stateside, and by trumpeting their names whether or not they had a phone. Checks were promptly mailed from Mexico. Since all orders went to a Mexican address, too, Horowitz assumed he was beyond the reach of Uncle Sam and his postal inspectors.

It took a while to warm up the Gringo audience, but with solid plugging from 7 p.m. to 2 a.m. and 4 to 7 a.m., fifteen clerks were soon needed to handle the mail.

Nineteen-thirty-two wasn't very old when the U.S. Mail began returning lottery orders to their senders. Horowitz didn't know or didn't care. His attitude undoubtedly changed that early morning in May when Justice Department agents intercepted him at his private plane. He was about to take off from the Hidalgo airstrip, but he landed instead — in jail.

The American XED announcer was close behind him, to be followed by his Mexican counterpart, lured across the bridge by a bogus phone call. The Mexican engineer had enough sense to stay far away on his side of the border, and maintained his freedom as a result.

Horowitz bailed out his employees. There were appeals and petitions from Houston, where Will was something of a civic leader. And overhead the beat went on from the tower of the medium-mighty XED, until Tamaulipas noted that a sizable tax bill had accumulated. Their agents descended and locked up all non-technical equipment, including several pianos and a pipe organ belonging to Horowitz, in the largest studio. The employees not in jail were paid off, the Mexican engineer returned to his home in Mexico City, and only a watchman tended the remains.

"The Voice of Two Republics" was stilled. Sam's Place and The Aztec Club carried on.

Up the Rio Grande, the State of Coahuila was becoming Radio Row. XER continued to beckon Mister America for treatment of "that troublesome old cocklebur." And Engineer Branch was building up a 100,000-watt transmitter at Piedras Negras, across the bridge from Eagle Pass. The call would be XEPN; the "clear" channel a big, fat 585 kc. That would muscle in on puny little WTAG, Worcester; KGFX, Pierre, South Dakota; and WSUI, Iowa City, at 580. Five-nineties that would feel the punch included WEEI, Boston; WOW, Omaha; and KHQ, Spokane. None operated with more than one per cent of XEPN's power.

There was a twist at Black Rock: a portion of the stock was owned by Mr. Branch. His future career would be closely tied to XEPN.

Tamaulipas, with one down, had one to go: Bad, bad Norman Baker was bankrolling XENT to trumpet his cancer cure now that the FRC had shut down KTNT, in Muscatine, Iowa. He decided to forsake Gringolandia entirely. No Texas studios. No Texas power across the river — a big Diesel generator would power both the station and Baker's new home just off the Nuevo Laredo highway.

And rumors had it that a 500 kw monster had been approved in Mexico City for Matamoros, just south of Brownsville. Soon the muddy river would glow in the dark, as did an increasing number of unconnected light bulbs in the Villas and Ciudades on its banks.

In case you're keeping score, a total of 355,000 watts came from these stations as FDR closed the banks across the United States. The watts score in the summer of 1933 was:

XER, 735 kc, 100,000 watts,  
XENT, 1115 kc, 150,000 watts,  
XEPN, 585 kc, 100,000 watts,  
XEAW, 960 kc, 5,000 watts,  
Plus the CP for 500,000 watts.

(XEAW was the old XED, dressed up as "The Voice of International Service" and moved downscale five kilocycles to a Canadian exclusive channel. A Brinkley imitator set up shop for a while, but got cold feet when his first patients arrived with cancers to be cured. He continued later by "proxy": An announcer imitated his voice, while he operated from the relatively-civilized Houston area. Weak little XEAW lived from mail-to-mouth, and if the fortune-tellers had a bad day, the staff might not get paid tonight.)

To get a handle on just how much Del Rio radio was lighting up the sky each night, consider that the nighttime power of all Iowa radio stations was only 54,000 watts — only 4,000 watts if you subtracted WHO, the state's one clear channel station.

All was not quiet, you might say, on the Western front.

During the summer of 1933, on XER, The

Carter Family sang of "a worried man." A.P. Carter's words, sung by Mother Maybelle and the clan, may have spoken of the boss as the 1933 Radio Conference, to be held in Mexico City, drew near. Ostensibly to review and re-allocate frequencies between Canada, the United States and Mexico, the border broadcasters knew it was primarily for their benefit (using the term loosely).

In the shadows behind the U.S. delegates lurked the officials of the American Medical Association and the National Association of Broadcasters. Members of both organizations were feeling the interference from "brand X." The AMA would have been wise to include some Kaeopectate in the travel kit: Broadcasting reported that the U.S. delegation spent considerable time in their hotel rooms, suffering from the results of "unfamiliar food and water."

Dr. Brinkley staffed the conference with sixteen city slickers, with no less than the ex-Vice President of the United States Charles Curtis. The "ex" status (pardon the pun) of this gentleman was downplayed.

The XEAW group was not nearly as impressive. They got mired in the mud and spent the whole time at a rancho less than one hundred miles from Reynosa. Might as well have stayed at Sam's Place.

In ten days it appeared that the job had been done. Rose Dawn, chief fortune-teller at XER, continued to drive her orchid Cadillac with the cerise upholstery and green wheels to the studio. Parsons thumped the Bible, explaining they were "against the Jews because they own the booze."

"His signal came in quite dependably here in Manhattan," remembered Robert J. Landry, managing editor of *Variety*.

And it was Doctor Brinkley's signal, make no mistake. The star was on his operating room door.

#### **Announcer:**

*"This is XER, the Sunshine Station Between the Nations, at Villa Acuna, Coahuila, Republic of Mexico. We have just heard the beautiful music of "Little Star," sung by Mexico's Nightingale, Miss Rosa Dominguez, accompanied by our Classic Quintette . . . Theme Song of Doctor J.R. Brinkley, of Milford, Kansas, helper of mankind, who addresses you at this time each day from the Hudson Gardens — another garden, a man and a wife distributing fruits from the tree of life."*

#### **Engineer:**

**CUT TO MILFORD REMOTE LINE**

#### **Brinkley:**

*"Greetings to my friends in Kansas and everywhere . . . Here is the news you have been waiting for: Guaranteed prostate treatment is yours for only \$250 during the month of (pick one: January, February, March, etc.). Don't stop to write — wire your reservation and money to us. Come directly to the Roswell Hotel. Go to the mezzanine floor and register at the Brinkley desk, with Mrs. Brinkley or her sister, Mrs. Munal. The telephone number is Del Rio 74.*

*"Here is a letter from Duluth, Minnesota. This gentleman should send twenty-five cents to the Brinkley Hospital and ask for our "Blue Book," and find out about the prostate, and he should also read The Story of Paw and Maw . . .*



XED didn't really need the competition, but there was no stopping Dr. B.

Like XED, XER was to "establish" its own clear channel, and there is some confusion as to exactly where it was on the dial. Most logs list a 735 kc figure, midway between the 730 Canadian clear and WSB/Atlanta-KMMJ/Clay Center, Nebraska (a daytimer) at 740.

Not only did XER pound out 75 kw, but Bill Branch (and/or Jim Weldon, just arrived from Milford and Dr. Brinkley's trusted radio engineering director) built what had to be a first for the time: a longwire directional antenna. Weldon, now president of Continental Electronics in Dallas, recalls the big tri-tower rig:

"The two towers to the north supported a flattop, and there were cables running from those to a single tower at the southern tip of the equilateral triangle. Between those cables, a quarter-wave behind the front antenna, was a second flattop, which was tuned as a reflector. The passive reflector gave roughly a cardioid pattern to the north."

Like XED, XER opted for a skywave audience, operating from about an hour before local sunset to an hour after sunrise. Sometimes programming continued all night long, but at other times the station shut down during the wee hours.

Naturally, the star of the show was John R. Brinkley, but he wasn't in Del Rio. Not just yet. His "Greetings to my friends in Kansas and everywhere" was delivered by program line from Milford. That line probably terminated at the Del Rio studio, where a goodly amount of local programming originated. Again, a local loop, if that term may be applied to a line between two countries, went to the terminal block at the bridge, cross-connected to the Mexican equivalent that carried audio to the transmitter building. Jim remembers the audio from Milford as good, if not hi-fi. "It was probably decent from 100 - 6,000 Hz." That's about what KWMC gets on its Mutual line in Del Rio today.

In addition to Dr. Brinkley's programs, XER had such commercial accounts as the Willard Tablet Company, International Oil Heating Company, Supertone Radios and Old Equity Insurance.

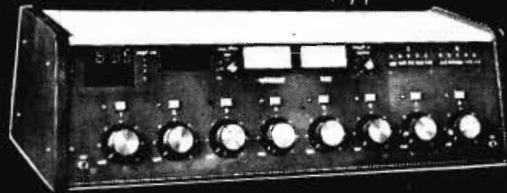
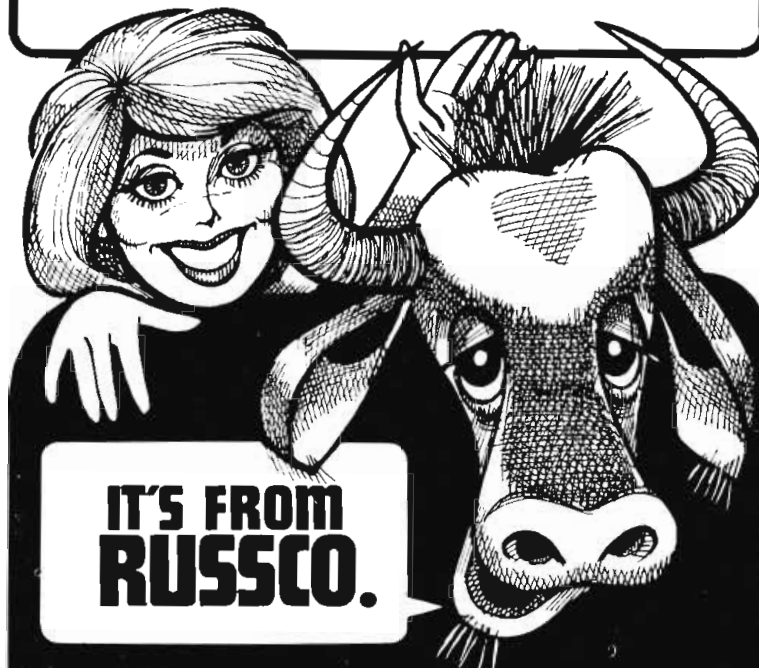
But in true X-fashion, "The Sunshine Station Between the Nations" derived much of its following and most of its direct income (not counting the cash flow at the Brinkley Clinic) from Mel Roy, Doctor Richards and Koran: fortune tellers, who rated the title "spooks" from Weldon and his engineering staff. Call them what you will, Doctor Richards' mail reached \$3,000 on good days. Nothin' spooky there.

And Major Kord(!) would send, upon receipt of one dollar, whatever it took to teach budding Cliburns the piano almost overnight. That was worth \$20,000 for the Major in one year.

Programming has been described as "excellent" for what it was: the target audience was not the Walter Damrosch-Milton Cross crowd. In their own way, the borderblasters (and XER in particular) did much to further American folk music of the hill nature.

When Mother Maybell Carter died last October at age 69, her obits made mention of the Carter Family program on XERA. The "A" comes later in our story, but the music of A.P. Carter, his wife (and later) daughters was spread to every Middle West village and farm by that big tri-cornered antenna across the Rio Grande. >>

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Presumably this process was repeated.

As was the case with all border stations to date, most of the components were manufactured on-site. Transformers were wound, coils were built using wooden hose racks for the frames.

Since the industry was changing from long-wire, or flattop antennas to vertical radiators, it appears that XERA's tri-corner was modified, too. Two vertical "cages" of cables were fashioned, to be supported at the center point of cables strung between the original towers. These were end-fed from the tuning houses below. Big open-air transmission lines ran to these from the main building; WLW seemed to be the only superpower trying to contain its RF within a monstrous coax.

The 320A tubes were awesome. Weldon stands six-feet-two, but they dwarfed him by about sixteen inches. Operating limits included:

Doctor Dick Mendenhall developed them in the Bell Laboratories. Weldon's transmitter design set up two 250,000-watt power amplifiers, which could be independently operated, and which were parallel combined. (Only nine of the 320s were ever built. None ever failed in service, although one developed a mysterious crack in the glass envelope. None of the janitors at the station would 'fess up to hitting it with a broom handle.)

It has also been reported and never denied that Weldon, Questa and crew were now using some form of peak limiters, knowing that to clip peaks was to boost the average modulation. If a 500 kw station with an additive directional array would be big, imagine the thunder when it was efficiently modulated!

The big night occurred in October, 1938.

Barnyard lights from Uvalde to Ozona dimmed a bit, tower lights without wires at Villa Acuna glowed and flickered in the twilight, corona arcs frazzed up the cages while chickens and peons ran for cover.

"Good evening to my friends in Kansas and everywhere!" The Doctor spoke into a microphone connected by the ether to — literally — the world. The signal hurled itself across the plains and prairies, careened against the Rockies, skipped across the ionosphere and landed with all four feet in Grundy Center, Iowa; Brandon, Manitoba; Glendale, California and Beta, North Carolina, where the Brinkley voice made its first squall fifty-three years earlier.

"A man is only as good as his glands!"

In Washington, FCC officials cringed, and conferred with folk at the State Department.

"Come to Del Rio, in the valley of the roses, resting on the pillows of Peace and Love!"

The co-channel onslaught buffeted KOA and WWL as Brinkley blew by.

"As to how many automobiles it is I have now, I will have to go to counting up. I have three fine yachts, a Lockheed Electra plane, a ranch here in Texas, a goat farm in Oklahoma, sixty-five hundred acres in North Carolina and two citrus groves here in the Valley. I have an advertising agency, an Arizona gold mine and a fernery. The Villa Acuna police wear my uniforms, the books are in the Brinkley Del Rio library. I have all of this because I can fix that troublesome old cocklebur — your prostate!"

The AMA verged on collective apoplexy. Hitler may have wanted Danzig, but all they wanted was Brinkley off the air. It would take the better part of four years, and the job wasn't finished before John R. Brinkley procured an

estimated twelve million dollars from the hopeful, fearful, anxious and optimistic gullibles of a country which bears a sucker every minute. ■

Tune in to our next exciting episode, when we will hear Nestor Questa say:

"Querida, es posible nos mudamos a Iceland."

And John R. Brinkley say:

"If those postal inspectors want me, they won't have to run very fast."

And WLW's nighttime superpower say:

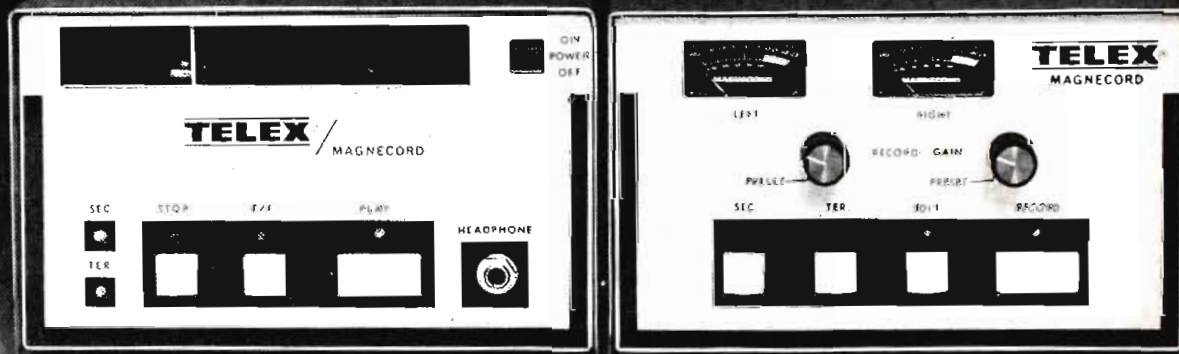
"This announcement is broadcast by the government of the United States of America. Do not call this station regarding its contents. Beep-beep-boop."

Plus coverage of the phantom transmitter of the Rio Grande, and El Director General de Telecomunicaciones, Senor Walter Buchanan. (Buchanan?)

Don't miss "When Radio Went To War." Same time. Same station.

As always, many thanks go to many people for information and help in some highly unusual research: Thanks to James Weldon and Nestor Questa, of Continental Electronics, who were at Villa Acuna and remember. To Art Holt and Bruce Earl, of the Art Holt Corporation, who deal in enough superpower stations in South America that they tend to glow in the dark. To Broadcasting magazine for documenting the oddball news of our industry all these years. And to the reference departments of the Los Angeles and Pasadena Public Libraries, for ignoring Proposition Thirteen and spending the time to dig for facts anyway.

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"Next letter is from Union, Missouri; he is badly constipated: he don't know whether his eyes need a pair of glasses or not . . .

"Now here is a letter from a dear mother — a dear little mother who holds to her breast a babe of nine months. She should take Number 2 and Number (static) and — yes — Number 17. If her druggist hasn't got them, she should write and order them from the Milford Drug Company, Milford, Kansas, and they will be sent to you, Mother, collect. May the Lord grant and protect you, Mother. The postage will be prepaid."

"Centuries to come," huffed the *Journal of the American Medical Association*, "may never produce again such blatancy, such fertility of imagination or such ego."

"Sex is never far away when Brinkley speaks to his hillbillies," said another item, "among whom there is considerable."

"Don't let your doctor two-dollar you to death!" trumpeted Doctor B. "He belongs to the AMA — *The Amateur Meatcutters Association!*"

The pied piper of Villa Acuna played so sweetly on his superpower, and the lemmings came by the hundreds. First to Milford, then to Del Rio, "where Summer spends the Winter."

It was a gala week in Del Rio when the entire Brinkley entourage arrived to set up camp. The Kansas licenses, both medical and broadcast, were gone forever. As a final touch of paranoia toward the state that had twice failed to elect John Brinkley governor, the Doctor had every inch of the Milford spread bulldozed to the ground: if he couldn't practice in the Sunflower State, nobody else would be able to set up shop there, either. The KFKB equipment was sold to a Wichita insurance company — it eventually became KFBI, shown in a 1933 log as licensed to Abilene, Kansas.

All good things must come to an end, and the end very nearly arrived for all the X stations in the fall of 1933. Perhaps El Presidente Rodriguez found that Charley Curtis wasn't the #2 Gringo after all. Anyway, orders came from Mexico, D.F., banning:

- All medical talks unless expressly cleared by the Mexican Department of Health,
- All fortune-telling programs,
- All PI (per-inquiry) offers,
- All programming from stateside studios, and
- Requiring all programs to be first broadcast in Spanish.

XEAW dropped the medical talks, closed the McAllen studio and spirited the fortune-tellers on from Reynosa.

XEPN started brief Spanish summaries of English programs.

XENT and XER made no changes, relying on their Mexico City representatives to smooth the way to continued operation. It didn't work. XEAW had to cough up 5,000 pesos to pay her fines. When XER didn't reply to a command for 350,000 pesos, the Federales stormed the transmitter complex one night, took it off the air (some reports say by firing into the transmitter) and placed armed guards on the property.

Fuming, Brinkley made emergency plans. His yacht in Florida would be outfitted for floating superpower. He would build a 500 kw station in Cuba. XER was moving to Haiti.

XEPN had procured medical permission

from Mexico City, so he bought time there. XENT had it, too, but Brinkley would not go near Norman Baker, whom he once called a "jailbird." In January, 1934, he bought little old XEAW. It became "The Sunshine Station . . ." and carried the Doctor's voice by both transcription and by proxy.

In April of 1934, with ill-concealed glee, *Broadcasting* published a list of "re-allocated" Mexican frequencies. The border stations included:

XEPN - 50 kw - 585 to 590 kc

XEAW - 10 kw - 965 to 950 kc

XENT - 150 kw - 1115 to 1340 kc

XER was conspicuous by its absence, and the journal quoted radio officials as being "particularly pleased" by the decisive action of Mexico in "deleting" the station, especially since its license now authorized a whopping 500 kw.

But listen again.

"Good evening to my friends in Kansas and everywhere!" *Broadcasting* gravely reported that Doctor was back. Only the call had been changed to protect the prostate. XERA now thundered past at 840 kc, between KOA at 830 and WWL at 850. The fines were never paid. There had been a change of government in Mexico.

XERA made up for lost time. The spooks were back, answering "Puzzled" and "Anxious." There were rupture cures, electric bow ties, bargains in the gravestone department, and even Johnny Boy Brinkley (definitely not a goat-gland baby), who never stumbled over words like "tonsillectomy" and "hemorrhoids," or so his proud radio mommy pointed out.

It looked like the AMA had struck a rapport with the wrong team, and to make matters worse, word was received that XERA was boosting power. Soon Washington didn't have to receive the word. It could receive the station — some 180 kw worth. The 1937 *Broadcasting Yearbook* carried an ominous listing: XERA, at 840 kc, operating with 180 kw, had a CP for 850 kw. Given the tolerance of such a construction permit, the station could make WLW's 500 kw look like a night light.

Forty-five years can dim reality into legend, but it could just be that Brinkley and his brilliant engineer James Weldon were discussing WLW's troubles with their big rig. Weldon's friend, Bill Doherty at the Bell Laboratories, had just written a technical paper on a new and innovative circuit for high-power RF amplification. (It would make high-level modulation, with the eleven-foot high transformers out at Mason, Ohio, into an instant antique.) Weldon remarked that he could knock out a half-million watts with no trouble at all. Doc made a \$75,000 decision. "Guess you'd better go ahead and do it," he said.

Western Electric was betting that the massive 320A triodes would soon be in use across the continent as clear-channel stations marched up to superpower. They would profit by RCA's mistakes at Cincinnati. But the nine prototypes, including one spare, still cost Doctor \$36,000. When told of the cost, it is reported that Doc peeled thirty-six thousand dollar bills from his pocket roll, and passed them to the speechless Western Electric sales engineer.

Enter Nestor Questa. As an associate of Weldon's he worked closely on the Villa Acuna installation, including the several modifications. Now Brinkley owned controlling interest

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in little XEAW, which, as XED, had started all this ruckus down in Reynosa. Probably as a form of insurance, Questa and Weldon traveled down the river and planned a massive updating of that facility.

The decision was undoubtedly also spurred by a new Brinkley venture — a rectal clinic at San Juan, near McAllen. XEAW needed to give colitis as much coverage as XERA gave to prostates.

Taking charge of the Reynosa station, Questa remembers "having to move it out of town. Too many lights were burning without electricity. I built a 100 kw modification to the old transmitter, the first Doherty amplifier ever built. Mr. Doherty came down to see it. We put up a six-tower directional array." The signal charged northeast with vigor.

The station was on WBZ's frequency. Except that Questa did his job so well that it wasn't WBZ's anymore. "We put a tremendous night skywave into Washington, D.C., and blew WBZ off the map just north of Boston."

"Remember: San Juan for rectal troubles, and Del Rio for the old prostate!" thundered Doctor.

At Piedras Negras, XEPN went dark after violating some sort of sanitary code. Before it could be reopened, the station burned. Details are unclear. Bill Branch, having lost the first station which was a personal investment, went to work building a new one in "Tijuana." The call would be XELO. Remember that one.

The bustling towns south of San Diego were getting their own borderblasters. XERB at Plaza Rosarito was located on the grounds of the hotel-gambling casino there, and sounded the clarion call of easy money up the coast. Tales are told of the water reservoir for the cooling plant: a large tin can with a hose for supply and a hole for demand. If the water level dropped, a float lowered and cut the plate voltage.

XEAE was at 980 with 2 kw, broadcasting from the Foreign Club and the Aqua Caliente Hotel.

But Del Rio is where the action was. James Weldon was convinced that the Doherty amplifier was a giant step forward. It was — so much so that his Continental transmitters, powering such modern borderblasters as the VOA, still use a modified version of the Doherty circuit. Instead of modulating the plates of the final power amplifier tubes from giant modulation transformers (as WLW's 500 kw plant did; see *BP&P, March/April 1979*), the Doherty used low-level modulation. It required lower B-plus voltages and less iron, and was capable of extremely high sustained modulation. Doctor loved to modulate.

A room was added to the Villa Acuna building. This room became the "cabinet" for the final stage. So little space was left that existing interior photos of the rig show only portions of it.

Power for the new XERA would continue to come from Central Power and Light of Texas. An agent "imported" power for the town via a line across the river. Brinkley paid to beef this line up when the original XER went on the air.

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can maximize the output of its transmitter is to use the 100 per cent modulation it has to work with, while minimizing or at least masking distortion. This is accomplished in our unit for both AM and FM by clipping that is based on increasing the average energy or RMS content of the program material in relation to waveform peaks, thus diminishing the need for asymmetrical modulation in reality."

The debate over whether to clip modulation peaks, negative and positive, equally (symmetrically) or to clip positive peaks at a higher threshold (asymmetrically) to push up average modulation toward 125 per cent is complicated and open to good arguments on either side. The issues are more technical than most program directors are interested in; suffice it to say that there are loudness and distortion trade-offs on either side.

The DAP is unique among modern processors in its avoidance of artificial asymmetry in AM peak limiting. "Everything in life is asymmetrical," Dorrrough insists, "so why distort one-half of the waveform just to raise the other half? The trade-off of the apparent and inconsistent loudness you get through artificial use of asymmetry is detection of the offset by the ear itself — often heard as a 'barking' effect. You don't lose loudness in going symmetrical because symmetrical makes the greatest use of available power."

For those stations who feel an additional means of control is needed, Dorrrough has recently made available an equalizer circuit that can be installed just before the DAP's clippers.

"There's nothing wrong with a station using equalization to adjust the timbre of the DAP," he cautions, "however, it defeats the unit's purpose to use a wide-band limiter or graphic equalizer ahead of the DAP itself. In fact, many people make the mistake of thinking my box is an equalizer. It's not — the crossover points (of the three compression channels) are too extreme for that. Adjustment of the high frequency channel by itself, for example, would constitute re-mixing of the original program material and the DAP's masking effect would be lost."

Dorrrough is firm in his conviction that the discriminate audio processor should be evaluated as the only audio processor in a station's audio chain, and that users operate the Model 310 at the original factory settings until listening quality has been fully studied.

Dorrrough points out that each of the DAP's channels is set to approximate the amplitude (loudness) response curve of "real life."

"Remember that the tambourine flourish requires less electrical energy to satisfy the ear than does middle C on the piano. The DAP is tuned with those differences in mind, which has led many people to the mistaken conclusion that it is designed with a high frequency deficiency. But when the unit is working properly it should in fact show the same high-frequency roll-off there is in the real acoustical world," notes Dorrrough, adding that this concept has not been easily accepted by members of the "engineering fraternity, particularly those who use processing to correct what they feel is poor AM receiver design."

"On paper, the DAP may not make sense to many people — but it does to the human ear, and that's what counts. Just as a record is produced for a committee of ears and not an oscilloscope, the goal of audio processing is not to reproduce sound with literal 'high

fidelity' — there is no such thing.

"We know, for instance, that even the loud voice of blues singer Ella Mae Morse cannot stand out above five trumpets, two saxophones, a violin section, piano and drums in a room acoustically. Through audio processing, however, we can make her voice clear and intelligible."

Among those agreeing with Dorrrough is Milford Smith, chief engineer at WPGC-AM/FM, in Washington, D.C., who has installed two Model 310s.

"The DAP is a relatively simple device, but it demonstrates that Mike has really done his homework. When operated in a flat or factory-recommended setting, they provide pretty close to colorless processing while still being loud and competitive. I think one reason for this is Mike does not follow the discriminate channels with a dynamic wide-band limiter. Because of the gentle slopes between channels and the soft clipping that follows them, that kind of limiting action is unnecessary."

Tom Crosnoe, chief engineer for Los Angeles' KMPC-AM, believes the greatest advantage of the Model 310 is its flexibility.

"You can push it as hard as you want — make it sound any way you choose — and it still sounds good on the air. We've tried everything over the years and have stuck with the Dorrrough DAP," he says.

Ironically, in Dorrrough's view, the DAP has had its greatest following among the thousands of small stations in the two or three station markets where on-air competition is often the most intense.

"The small market stations have really made our business," says Kay Dorrrough, Mike's wife and business partner. "In the 'loudness war' a DAP is often used as a competitive tool. This kind of audio processing can make a big difference in a small town when it comes to building audience and ratings."

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### **'Dorrrough completed the first Model 310 on the family's kitchen table.'**

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Kay Dorrrough points out that for many years split-band audio processing was considered a tool of Top 40 formats alone.

"Gradually, stations have started to realize that the format is irrelevant — audio processing helps a station whether it is rock, country, classical, MOR or even all-news. Program directors ought to realize that the piano they hear on a Bee Gees tune may in fact very well be the same piano used by Hank Snow or Burt Bacharach, and the DAP will treat it the same."

She adds that the DAP has recently been "discovered" by overseas broadcasters and a significant percentage of the Model 310s being produced are now shipped for foreign use.

The earliest composite versions of Dorrrough's multi-band processor were developed in the middle 1960s for use in recording sessions involving Carol Burnett, Jim Messina, Harry Nielsen and other entertainers. The first devices consisted of an equalizer connected in series with a limiter, with discriminately adjusted parallel outputs.

"The problem with these five or eight channel approaches was the way they treated

an instrument that slid into more than one channel — such as a violin. A woodblock or other percussion instrument would come along and alter the compression levels on one or more of the channels where a violin was present, causing a phasing or skewed effect to be heard," Dorrrough recalls.

Eventually, a modified working composite and accompanying drawings were circulated among engineers and executives at several Hollywood studios. But they rejected out of hand Dorrrough's offer to demonstrate the system, labeling it little more than "a glorified equalizer," a term Dorrrough disdains.

By 1970, the discriminate audio processor was ready for a transmitter. An eight band box found a home briefly on Pasadena's KRLA, followed in 1971 by a three-band composite, first installed at KRLD, in Dallas, and then Santa Ana's KEZY.

In 1972, using only a distortion analyzer, tone generator and his own ears for "discrimination," Dorrrough completed the first Model 310 on the family's kitchen table. The first tests were conducted over KDEO, in San Diego and KYNO, in Fresno.

Kay Dorrrough, a medical technologist when the company began, recalls the slow beginning.

"Mike would simply drive from one station to another, knocking on doors and asking engineers to give the DAP a try. Luckily, most engineers love new toys and agreed to at least plug it in after midnight to see how they liked it. It was a gypsy existence."

As orders trickled in, the Dorrroughs kept costs down by ordering parts in large volume and sharing assembly work among family members. Manufacturing of the DAP was taken over by Marcus Associates from 1974 through 1978, when it reverted to Dorrrough Electronics.

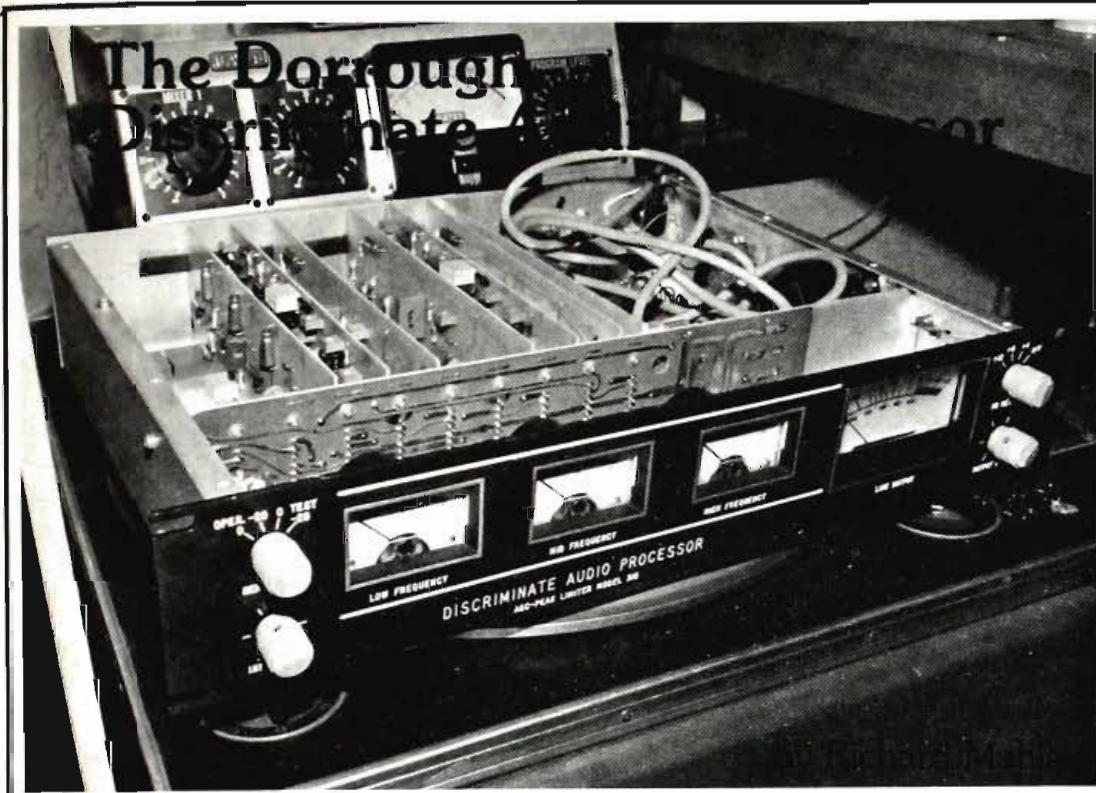
The company currently manufactures about 80 processors each month in a 1,800-square-foot factory in the San Fernando Valley, north of Los Angeles. After assembly, the DAP's crossover points are tuned using pink noise (a source of equal energy, as compared to the equal amplitude of white noise). Units are given two weeks of simulated on-air duty which may include a stint with a 25-watt AM radio transmitter, nicknamed "KDAP," loaded into a resistor. Among the input options available at the factory are a cross-section of the Dorrrough unit's half-dozen multi-band competitors.

(Also competing for attention in the Dorrrough Electronics facility are dozens of vintage juke boxes, scores of aging radio receivers and thousands of classic 78 rpm records — a testament to Mike Dorrrough's other passion, saving and restoring sound sources of the "Golden Age" of radio and recording. Partly through "horse trading" of modern audio equipment, Dorrrough has managed to save many priceless broadcasting artifacts from an uncertain fate and assemble one of the largest private collections of jukeboxes and radio gear in the world.)

"I may have been in more radio stations than anyone alive," Mike jokes, in reference to his regular 10,000-mile jaunts in search of customers and memorabilia. "We also use the phone a lot — I've made it clear that anyone with a question or a problem regarding a DAP may call me at any time, collect."

The personal touch (although Dorrrough Electronics has never advertised, about half its Model 310 DAPs are now sold through McMartin, Collins, RCA and other distribu-





The problem: how to make your nickel-and-dime radio station sound like a million dollars. The solution: the dynamic and exciting world of modern audio processing.

The man who started it all: Mike Dorrrough. Sure, there have been engineers before and since who have had a major impact on how the sound from a broadcast station's studio is pushed and pulled and squeezed before it goes on the air, but few in the industry dispute the claim that it was Mike Dorrrough who pioneered the fundamental concepts employed in most modern audio processors.

Dorrrough has never advertised — an amazing feat in itself, since more than 5,000 of his "discriminate audio processors" have been sold during the past six years — but if he did it would probably come out sounding something like this:

"Poor processing has ruined more recording careers than any other single factor," he would say. "I don't think it has to be that way. Your station can sound loud, bright and commercially competitive while still respecting the artists and professionals you're working with."

In fact, Dorrrough has said that, and more, to hundreds of individual engineers and program directors throughout the United States and Canada as part of his one-man campaign to unplug bad audio.

It all dates back to the days when Mike was a successful recording engineer, putting the final touches on the would-be hits of the 1960s.

"We'd spend hours and hours working on a disk," the former RCA mixer recalls, "trying to convey the exact mood the performer wanted. We would use echo chambers, graphic equalizers, phasing circuits and a host of other production gimmicks to achieve the desired effect."

The finished product was then sent out to the nation's radio stations.

"It was a tragedy. The dynamics and feeling were completely changed. Voices seemed to leap away from the music with a harsh bite, violins moved up between word passages, and tambourines were simply never heard.

"In effect, the audio processing chains at the radio stations were re-mixing what we had

spent so much time and care producing. Listeners never had a chance to hear the music as it was originally intended."

Dorrrough places most of the blame for the bad audio of that era on a wide-band (all frequency) application of the two main tools of the audio processor's trade: the compressor or AGC (an "automatic gain control" amplifier designed to increase soft sounds and turn down loud ones for an effectively greater average sound level) and the limiter (generally thought of as a broader, more radical compressor used to keep already-processed audio within legal modulation limits).

"Technically, and when used in an appropriate application," believes Mike Dorrrough, "the wide-band processor is an acceptable piece of equipment. Musically, it makes some mistakes. It's like having a little man at the transmitter constantly adjusting the volume (amplitude) of programs to keep them at a constant level - regardless of content. This kind of AC voltage regulation results in gain reduction of the *entire* program during durations of peak volume, plus the release time of the device."

In engineering parlance, it's called "pumping."

It's the effect heard when a wide-band processor tries to handle a disco record, for example, with a persistent bass drumbeat. As the peak limiter sits on the drumbeat to keep it within modulation parameters, a brief "hole" is punched in the rest of the music, causing it to be pushed too far down to hear. This dynamic inversion is also audible during newscasts or talk shows on some stations, as the sound of the announcer breathing is brought up (in the absence of other sounds) to a wheezy, asthmatic level. In a television broadcast, a wide-band processor may make its presence known during old movie soundtracks, as crackling film noise is brought up during pauses in dialogue.

The wide-band method has a tendency to let the "loudest" sounds dominate, Dorrrough explains, and there's the problem.

"The louds get louder and the softs get softer. A spectrum analysis of program material will show that there are dramatic roll-

offs in the 'loudness' of that material at the high and low ends of the frequency spectrum. In other words, a tambourine flourish may not move the VU meter much because it is not *electrically* as loud as it is *acoustically*. On the other hand, a mid-range piano note is acoustically satisfying at what is a higher electrical level."

Attempts to modify the acoustically flat characteristics of wide-band devices have had mixed success. A graphic equalizer may be used to adjust the frequency profile of inputs into an AGC amplifier, but Dorrrough points out that just as middle to lower range frequencies are allowed to dominate in many less processed applications, record clicks and other inconsistencies in high frequency ranges may result in a damping effect on overall loudness during the duration of peaks and "hole punching" during recovery time. In addition, these uncontrolled peaks are amplified and given unknown amplitude parameters, a potential source of problems for both AM and FM transmitters.

Dorrrough's solution was multi-band audio processing.

"I wanted to give violins, drums, pianos, tambourines and voices equal footing," Dorrrough remembers. "When tuned properly, I think the discriminate audio processor comes as close to colorless processing as we can get."

The key word in the Dorrrough approach is "discriminate." His was the first AGC/limiter to split incoming signals into separate frequency bands, thus making it possible to limit the sounds in one part of the spectrum without affecting those in another.

The "DAP," as the Dorrrough Electronics Model 310 discriminate audio processor is affectionately referred to by its creator, separates sound energy into three parallel channels. Input to the DAP is through an active three-way bandpass filter network, which yields output channels with frequency ranges of roughly 20 - 120 Hz, 120 - 6.5 kHz, and 6.5 - 15 kHz. The unit is designed to allow deliberate "leakage" between channels as a means of minimizing the unnatural effect that can occur if segments of the sound spectrum are excessively restricted. In effect, this psychoacoustical "masking" of potential harmonic distortion gives the listener the sensation of a total sound, rather than small parts of a program source. When the gliding note of a violin, for example, crosses from one channel to another, the gentle 3 dB per octave slope of the bandpass filter network is designed to provide an overall consistency to the human ear. According to Dorrrough, as much as a 15 dB AGC range can be obtained without degrading program material.

The equalized output of each bandpass filter is fed into its own compression network, with user-adjustable controls for setting average levels for a desired air sound. On FM models, the DAP follows this with a low pass filter to prevent excessive highs from reaching the transmitter.

"Soft clipping" by the Model 310 boosts overall loudness by limiting maximum modulation peaks to a symmetrical waveform of 100 per cent, treating AM like FM. According to Dorrrough, the DAP's soft-clipping diodes are designed to be "fast" enough to minimize the fade-outs and overshoot distortion that can arise from over or under-modulation.

"Short of broadcasting a continuous tone," Dorrrough contends, "the only way a station

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attack time overall is much faster than the AGC amplifiers and thus limited to control of transient peaks and summation errors. Manual control of these time constants is included in the MSP-100.

For AM applications, the Harris audio processor employs an integrated circuit and other components in asymmetrical limiting, as well as a polarity switcher similar to that used in the Optimod-AM. The FM unit utilizes a high frequency limiting and clipping design to minimize the potential problem of high frequency information interfering with FM transmitter operations, with de-emphasis after the clipping section to minimize distortion as well.

"I heartily support the gentle filtering approach of the DAP," says Rosback. "It makes good use of acoustical masking, without the severe amounts of dynamic intermodulation distortion produced when more than three bands are used and tight filtering is required.

"However, I feel this approach can be taken two steps further — by using phase coherent filtering and adjustable turnover frequencies. Improved filtering results in a less processed, more open sound. Adjustable turnovers are used to compensate for receiver deficiencies and differences in program energy content. Remember, different formats typically have different energy density spectra — and the goal of multi-band processing is to equalize that energy density."

Rosback points out Harris will soon introduce a new audio processor, the MSP-90 Tri-Band AGC, using RMS power sensing for amplifier action rather than the peak sensing control used by most other units, including the Dorrrough DAP. This type of compression is also used in the Pacific Recorders Multimax.

"There are several factors contributing to the perceived loudness of music, and the RMS value of the waveform over time is a major one. Because of this correlation of RMS power and loudness our gain control will be smoother and more consistent," Rosback believes.

Harris is also about to market new MSP-90 AM and FM peak limiters, which Rosback feels will be superior to the Model 310's diode clippers.

"The key to good processed sound is the compromise between AGC action and limiter action," Rosback believes. "Classical, jazz and beautiful music formats are more difficult to process than popular formats . . . this marketplace is less competitive and more quality oriented. New equipment is capable of excellent quality reproduction with loudness improvements, but compromises must always be made. Since processing is subjective there is always room for debate!"

### Pacific Recorders & Engineering

"Together the Multilimiter and the Multimax are companion units that will fulfill the same basic function of the DAP," says Michael Uhl, sales representative of Pacific Recorders and Engineering Corporation, in San Diego. Pacific offers separate AM and FM models of both devices.

"The main difference between our processor and the DAP, or any other processors, is in quality of construction and components, and the type of circuitry used," Uhl claims. "Compression and limiting is done with as few audible side effects as possible."

The Multimax, a tri-band AGC/limiter, is described as "totally user adjustable" through

low and high-band AGC offset controls. Pacific recommends a wide-band frequency filter for FM compared to AM, in view of perceived differences in processing needs. At 18 dB per octave, the filtering slopes are much sharper than the Dorrrough unit.

From the filtering circuits, each channel's audio is sent through a separate compressor circuit.

"We use two discrete gain controls," Uhl explains. "The first with a long time constant to control gain for the long-term signal envelope, the other with a short-term constant to respond to short-term signal energy. The AGC amplifiers are designed so that control results from rectifying and integrating the total audio signal, and through offering greater operator control and an extreme amount of operating headroom (over a dynamic range exceeding 25 dB)."

Finally, the Multimax employs a compliance configuring circuit to limit the long-term "loudness" variations between channels to 6 dB, permitting wide-range tracking without excessive single-band compression.

Although the Multimax may be followed by other wide-band limiters, it is designed specifically for use with the Multilimiter AM or FM.

Pacific encourages users to "tune, tweak and tailor" the unit to format needs. Program input is funneled first through a high-pass filter (used for intermodulation protection), then through a complex RMS compressor designed, according to Uhl, to yield an "almost constant" energy output.

"The compressor looks at the long range signal envelope," he points out, "using an LED/photo-resistor opto-coupler. From there, audio is processed by a very 'smart,' independently adjustable 'fast limiter' designed to maintain a very high average-to-peak ratio. This is something of a feet forward circuit in that the limiting is going on instantaneously on the program material rather than using a diode clipper or feedback system."

From the fast limiter, AM units use a polarity selector (which can be adjusted by the operator) to take advantage of positive (asymmetrical) peaks, unlike the Dorrrough DAP. The FM limiter circuit includes pre- and de-emphasis circuits, a pre-limiting equalizer followed by a high-frequency limiter, and, like the AM unit, a peak limiter for final overmodulation protection.

### Track Audio

In Federal Way, just south of Seattle, Track Audio produces a unit called "the Discriminate Audio Processor II," which has no official or unofficial connection with the Dorrrough DAP.

President Brian Hayashi points out that the tri-band processor is usually used ahead of a peak limiter, "though the leveling amplifiers are very tight and most likely could peak limit themselves. I'm against having a peak limiter in the same system but we're meeting that demand halfway by introducing (this summer) a very flexible digital peak limiter."

Hayashi believes a major difference between the "DAP II" and the Dorrrough DAP is his unit's flexibility.

"This device can be used for all applications (AM, FM, etc.) and the user may select any amount of gain, compression, attack, release and output on each of three bands. Crossover points on the bands may be varied substantially without any alteration of components on the circuit board. In this way the user may tune the

unit for any format or wavelength."

The Track Audio device, according to Hayashi, uses top quality components and is capable of running perfect square waves in test applications.

"We have not limited the customer to a particular peak device which many times is objectionable. You have a choice," Hayashi concludes.

### Gregg Laboratories

Finally the Series 2530 Tri-Band Processing Amplifier offered by Gregg Laboratories, of Anaheim, California, also competes with the Dorrrough DAP.

"Our processor is virtually knobbed to death," replies company president Greg Ogonowski, when asked to describe the main difference between the Series 2530 and the DAP. "You can make your station sound anyway you want to, without pumping or distortion."

The Gregg line includes separate units for AM and FM/TV/recording applications, both of which are intended to be used with the Series 2640/2650 peak limiters.

"An advantage over the Dorrrough processor is that with our system you can have one box at the studio and the other (the limiter) at the transmitter," says Ogonowski.

Like the Optimod-AM, Gregg's AM processor includes an equalizer within the three AGC/filter networks because of what Ogonowski describes as "dramatically different processing requirements" of AM and FM.

"We've also used gating in the gain control stages. This eliminates the 'asthma' effect between words by stopping the compression action in the absence of program material. We also do not use expansion techniques, which tends to chop off low level material or that with certain kinds of dynamic range."

Other advantages of the Series 2530 processor, according to Ogonowski, are its adjustable attack/release times on each band and use of "true" VCA (voltage control amplifiers) with dB linear gain control. The unit uses no input or output transformers and is balanced instead using differential DC-coupled instrumentation amplifiers. Also included is a high-pass filter designed to reduce low-level disk and tape noise, a bandwidth limiting low-pass filter for AM stations, and pre- and de-emphasis for high frequency control in FM applications.

The AM peak limiting amplifier, Gregg Model 2640, like the other non-Dorrrough units, takes advantage of positive peaks in asymmetrical modulation to 200 per cent.

"Distortion cancelling techniques, transformerless input/output, variable limiting slope (to allow soft or hard limiting action), low-pass output filtering (to eliminate out-of-band products), and optional phase/amplitude corrector (to reduce low frequency tilt or high frequency ringing from some AM transmitters or antennas) are the primary features of the AM peak limiter," according to Gregg's release on the device. Comparable information was not available on the companion Series 2650 for FM applications.

BP&P asked Inovonics, a major manufacturer of multi-band audio processing equipment, to provide comparative information and comments for this article. Unfortunately, we had received no material from them by press time. ■



tors) has become the trademark of Mike's marketing.

"I feel a personal commitment to help make radio sound better," he insists. "The potential fidelity of AM broadcasting, for example, has been seriously underestimated by most engineers. I think that AM stereo is the wave of the future."

Dorrrough recently participated in a test of the Leonard Kahn stereo broadcasting method at WFBR-AM, in Baltimore. Using a separate DAP for each channel, Dorrough reported improved "dynamics and punch" even on mono receivers, comparable to FM quality. He attributes this to the summed DAP output processing at the receiver level, giving the listener effectively less colored audio than previously available with a single DAP. The second processing unit, he says, can easily be nulled against the original DAP in an AM stereo application using a pink noise source.

But before the world of stereocasting opens up for AM broadcasters, they may have to deal with a new set of regulations from the Federal Communications Commission covering the role of existing audio processing chains in mono systems.

"The Commission is very aware that existing rules simply do not guide engineers on how to conduct a proof of performance using today's audio processing equipment," says Dennis Williams, of the FCC's Broadcast Standards division. "The National Association of Broadcasters has petitioned us to do something about it, and a recent magazine poll showed that more than 90 per cent of the engineers agree with them."

According to Williams, the Policy and Rules division will soon issue a formal notice of inquiry on the matter, inviting any and all interested individuals to submit comments, information and suggestions directly to policy makers. Several months after that, a proposed rulemaking will be announced and comments specifically related to the newly proposed rules will be solicited.

In the meantime, though it has become as much a part of most broadcast stations as the cart player and the cassette recorder, the audio processing chain remains outside the outdated "proof" requirements of the FCC.

### THE DORROUGH COMPETITORS

The broadcaster in search of an audio processing system that will make his or her station stand out has more devices to choose from than ever. Unfortunately, few broadcast engineers — let alone managers or program directors — have the time or inclination to carefully study the specifications and performance of all these instruments prior to purchase. One potential remedy to this problem has been a concerted effort on the part of manufacturers to help educate the non-technically trained who evaluate a station's sound in the basic concepts of audio processing. We'll be taking a closer look at those efforts in an up-coming issue of *BP&P*, but in the meantime we asked Dorrough Electronics' major competitors in the field of split-band processing to compare their products with the Model 310 DAP.

### Orban Optimod

"The Dorrough DAP incorporates what is basically a good concept," says Robert Orban, chief engineer of Orban Associates and developer of the Optimod line of audio processors. "Our processors do a number of

things the Model 310 does not, however, by taking that concept somewhat further and solving some of its intrinsic problems."

Orban insists that AM and FM are two different audio animals, and for that reason uses multi-band limiting only on the Optimod-AM. The Optimod-FM, he explains, "is a simple system combining a compressor/limiter (wide-band) and stereo generator for higher loudness without changing the dynamic range or causing distortion of program material.

"The processing requirements for AM, on the other hand, are much greater. The DAP's use of three compressors on three parallel bands makes it somewhat sensitive to how hard it's driven by operators. To avoid the potential problem of an operator driving one band to the point of progressive frequency imbalance and to achieve more consistent sound overall, we put a broad-band gain limiting compressor in front of the multi-band (six band) limiters.

## '... more to choose from than ever before.'

"The broad-band compressor is followed by a program equalizer which compensates for the high and sometimes low frequency roll-offs in most AM receivers and optimizes the frequency balance of the airsound. Since we use six bands and a 12 dB per octave slope our unit has more selectivity and less interaction effects than the DAP. If substandard program material is fed into the Optimod-AM, the automatic equalization effect has more detail than a three-band unit, especially where midrange frequencies are a problem."

Like the Dorrough processor, the Optimod-AM exploits the "masking effect" of multi-band limiting which helps keep compression action inaudible, and without "pumping" and other so-called artifacts of processing. Orban presets program-controlled release time circuits in each band, resulting in an overall psychoacoustical masking effect that he believes is more effective than the Dorrough DAP.

After the six bands are recombined, the signal is passed on to a polarity switching circuit designed to insure that asymmetrical modulation peaks will always be in the positive direction.

"If an asymmetrical piece of material came down the line at the wrong time, the DAP wouldn't be able to take advantage of it — as the Optimod can," says Orban; an advocate of artificial asymmetry.

From the polarity switcher, audio is fed into what Orban calls a "Smart Clipper" — a complicated collection of circuits which is essentially a sophisticated old-style peak limiter.

"It's a fast level controller that reduces the level of audio peaks which would otherwise overmodulate the transmitter, while minimizing distortion of material surrounding the peaks. The Smart Clipper is 'programmed' to simulate the way the ear hears distortion so that loudness can be adjusted to a level just below perceptibility of distortion, for maximum effectiveness."

Orban agrees with Dorrough that questions of frequency balance (i.e. through equalization) are the crucial ones in modern audio processing, but has a different emphasis.

"There's no magic black box that can take

the place of a 40-channel, 32-track console in the hands of a talented record producer," he points out, "and yet one has to realize that AM and FM are radically different media. I don't think AM is likely to become a high fidelity medium simply because we've had 60 years to make it that and haven't yet succeeded. AM is likely to find its strength as a medium that is partly processed for the automobile — but if you process FM for the car radio you're throwing away a lot of quality for a few small and deficient receivers."


Orban has included an AM stereo adaptor plug on the rear chassis of the Optimod-AM, just in case.

### Harris MSP-100

The MSP-100 audio processor is a multi-band unit offered by Harris Corporation, of Quincy, Illinois. According to Tom Rosback, of Harris' Audio Design Group, the MSP-100 is flexible enough to accommodate any format on AM or FM, as well as television applications. (Harris also offers wide-band limiter/compressor units as separate components.)

Like the Dorrough DAP, the Harris MSP-100 does not employ an equalizer ahead of its tri-band AGC circuitry. Unlike the Dorrough unit, the MSP-100 allows users to easily control operational parameters of each AGC band, including frequency bandwidths, thresholds and shapes, and attack/recovery times.

The combined output of the MSP-100's tri-band network is directed through a limiter section (a difference from both Orban and Dorrough designs) that automatically selects optimum attack and recovery time constants based on program material idiosyncrasies. The limiter is a broadband compressor whose



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**McGuire:** Eighteen to 49 is our target. The last book we didn't place all that well; I think we were number three. However, the latest book has just come out, and we have improved significantly in the ratings.

**BP&P:** As a manager, what is the Provo market like from a competitive standpoint?

**McGuire:** Well, up until a few years ago, radio in this market was a very level plane of nothing. The local newspaper owned the market as far as advertising was concerned. When the new management came in in 1976, they started an aggressive promotion program for the station. All of a sudden everyone started competing, and so now it is a very fierce competitive situation.



**Chris McGuire, KFTN General Manager.**

**BP&P:** Is KFTN personality oriented?

**McGuire:** Yes.

**BP&P:** Tell me about your air staff.

**McGuire:** Well, Larry John is on in the morning from six until nine. He's a very popular announcer and was a communications major here at BYU. He has been in radio in the area for about six years. His past experience includes work at K-96 and KEYY. We hired him because of his popularity here in the valley. His numbers are very good in our latest book. Paul J. Boyd is our mid-day man from ten until three. He's from Arkansas originally, with about five years in the business. I'm on in the afternoon from three to six, and at night we have Steve Holmes from six to midnight. He originally came to Utah to go to school, as did our all-night man Jay Victor.

**BP&P:** A couple of evenings a week I notice that you run old radio dramas. How did you decide to run them, and what has the reaction been?

**McGuire:** We found that there was a sort of void. Sixty per cent of the 26,000 college students here in Provo don't have TV sets. We decided to offer them something that they could listen to besides just music, so we chose old radio drama. We've been running them three nights a week, but plan to go to five nights soon. The ratings have been very favorable.

**BP&P:** Is there any special age group that you have found attracted to radio drama?

**McGuire:** We're getting good numbers 18 to 49, and over 50 as well. The young people listen because it's new to them, and the over 50

audience because it has nostalgia for them.

**BP&P:** You seem to have a strong news commitment, especially locally. How is your news department set up?

**McGuire:** Our news department is an important ingredient to our station. We have a full commitment to news and public affairs, and things of this nature. We want to provide the community with full service news coverage. Our news director is from Nashville, Tennessee, and we think he is one of the best journalists in the state. His name is Jack Emerson, and he was the one who broke the Gary Gilmore story. He's also on the city desk at the Provo Daily Herald, so we have a close working relationship with the newspaper. We're affiliated with ABC for national news and also editorialize as well.

**BP&P:** Do you find yourself having to battle with Salt Lake City stations that reach Provo?

**McGuire:** I feel that the other local stations like K-96 and KEYY have to battle Salt Lake City more than we do because of all the other rock and young adult stations that reach our valley. KFTN is a bit more unique in that as a listener you either dig us or you don't, so we don't worry about Salt Lake City stations.

**BP&P:** Are there any audience traits that characterize the market?

**McGuire:** Very definitely. One thing that we do is censor our music somewhat because of the religious beliefs of the county. This is an area where 82 per cent of the population belong to the Mormon faith. We wouldn't play something like "Spending the Night Together," by Dr. Hook, for example.

**BP&P:** What about the non-music elements to KFTN other than the old radio dramas?

**McGuire:** We run Ralph Emory every Sunday morning to satisfy the true country music fan because he's 100 per cent country. We run a lot of public affairs because this seems to be an intellectual area with interests in such things. We'll run special programs such as election results and the like. During the last election we had a good response to our coverage.

**BP&P:** Much is going on presently in the area of country music with crossover artists, etc., making for a multitude of country music formats. What direction do you see country music heading from a programming standpoint?

**McGuire:** Country music is the same thing now as MOR was in about 1965. It is going to be harder for the contemporary stations to play artists like Kenny Rogers or Dolly Parton than it is for a station like KFTN. Stations like ours can play artists of their type a bit more naturally because of our country base. There is no question that country music is becoming more and more popular. If you'll notice in the October 1978 book, country music listenership is up 40 per cent across the country. It has only been recently that country artists have been having gold and platinum records. It used to be that a country artist who sold 100,000 records was doing well. An example is Kenny Rogers' song "The Gambler" which is at six-and-a-half million copies as of yesterday.

**BP&P:** What about the morning and afternoon drive times as far as amount of country music?

**McGuire:** Larry John is on in the morning as a

go-getter, an uptempo album-oriented type jock. Myself, I'm a little more country in the afternoon than he is in the morning. I love country music and tend to play a little more of it. Over the years I've developed an audience that will go along with my Waylon Jennings and Marty Robbins because they know that they will hear Neil Diamond as well.

**BP&P:** What about sports?

**McGuire:** We treat sports as a major commitment, as we carry both high school and college football and basketball. I'm not sure how valuable it is to our ratings at this point, but we feel that it is a needed service in the community.

#### **KEYY — 1450 kHz**

Another Class IV AM facility, KEYY is on 1450 kHz with 1,000 watts daytime and 250 watts at night.

The main control room board is basically a Gates Yard that has been totally rebuilt by station personnel. It works well for the station, and has a low distortion level. KEYY has two triple-deck ITC cart machines; one about five years old and one that was just recently purchased. Two Russco turntables are located in both the main control room and production studio. All microphones in the station are Sennheiser 421U-5. KEYY also uses an Ampex 440B eight-track reel-to-reel machine.

The KEYY transmitter is a Gates BC-1G, 1 kw, which is about 15 years old. A highly modified Dorrrough processor is also used in the audio chain.

The production studio has a four-channel TEAC board, with two Russco turntables and ITC cart machines. According to engineer Carl Watkins, when commercials are being produced with the Ampex the best effect is achieved by running music into one channel and voice into the other, and then mixing it down going onto the cart.

The KEYY format is contemporary, but has just recently realigned its audience target from 16-30 to 18-34. This was done, according to program director Scott Stone, in order to place additional emphasis on young adults rather than on just teens. Stone says more emphasis is being placed on the air personality than in the past, casting him more as an involved communicator.

**BP&P:** What is the programming philosophy behind KEYY?

**Stone:** We program toward the young active audience since about 76 per cent of Utah County is under 30 years of age. We're an active, promotion-minded station.

**BP&P:** Would you sum up the format as being Top 40?

**Stone:** We're basically Top 40, but with much more adult contemporary appeal than just hardcore Top 40.

**BP&P:** Where is KEYY in the ratings?

**Stone:** Well, a new rating book just came out, and we're about tied with K-96 overall. Their cumes are higher than ours, our quarters are tied with theirs. They simulcast and cover a wider area than we do, so they look a bit better.

**BP&P:** Much has been said, especially recently, about the direction of Top 40 radio stations. As a program director, what trends can you discern in music, approach, or



# Market Memorandum: Provo, Utah

by William C. Cornwall

It would seem as though most radio feature stories that are published today are about huge stations in enormous markets with budgets and audiences of equal size. This is not one of those stories. This is a look at a smaller, yet still fiercely competitive market, and the four stations that face off against each other.

Provo, Utah, is an alive, growing community of about 66,000 residents located some 40 miles south of Salt Lake City, in the heart of the Rocky Mountains.

A 47.7 per cent population increase in the past ten years, and a total country population of about 180,000, not including the 26,000 student enrollment of Brigham Young University, makes for a challenging and competitive atmosphere for the Provo stations: KAYK (K-96), KEYY, KFTN, and the newest area station, KABE-FM.

Besides competing with each other, Provo broadcasters feel the effect of many of the eleven AM and seven FM stations from Salt Lake City which reach Provo, a common problem for many broadcasters under the "umbrella" of nearby major markets.

## KAYK-AM & FM (K-96)

Our look at the local stations begins with KAYK. Identified and promoted as K-96, "Kaykam" is on 960 kHz with 5 kw during the day and 1 kw at night. The FM is on 96.1 with 53 kw.

The AM operates with a two-tower array and a cloverleaf pattern. The transmitter is a 1951 Gates SC-5B. The K-96 FM transmitter is a brand new McMartin SF-25K with an output of 26,500 watts.

K-96 has a main control room used for both AM and FM when the station is simulcasting, and for FM when the two are split. This studio has a Sparta Centurion Two slide pot board; two triple-stack ITC cart machines, and an Ampex 440 tape machine. The station also has two other almost identically equipped production studios, one of which is used for AM originations from 6:00 p.m. to 6:00 a.m. when the programming is split. Both studios have UREI consoles. The AM room with nine inputs, and the main production studio with a twelve channel board. The AM studio has two triple-deck ITC cart machines, and an Ampex 440 tape machine. The production studio has a single ITC triple-deck with a record unit, along with an Ampex 351 and an Electro-Sound tape deck.

All turntables in the station are Panasonic SP-10, with at least one turntable located in each studio, although music is carted. The station uses Sennheiser microphones in all studios.

Production duties are divided up equally

*William C. Cornwall has worked for several radio stations in past years including KSTP-FM, Minneapolis/St. Paul. He will be receiving his BA degree in Broadcast Management in August of this year.*

among the air personnel, with an hour of production time daily required of each staff member. The station production director is Paul Orchard, who is also the mid-day air personality.

KAYK offers a contemporary format on both AM and FM.

Our interview was with program director Larson Bennett who, before joining K-96, was with WPGC in Washington, D.C. Both are First Media Corporation stations.

*BP&P: How would you describe the K-96 format?*

**Bennett:** K-96 is basically a mixture of pop adult and Top 40, dayparted to be bright in the mornings, housewifey in the mid-day, with the tempo picked up after about three in the afternoon. After six in the evening we go after the teen market. We're not trying to be everything to everyone, but rather just trying to pick up the available audience in each daypart.

*BP&P: What is your current rating position?*

**Bennett:** In this market, we're number one.

*BP&P: I notice that you cover Salt Lake City pretty well with your FM. Does the metropolitan area account for a large amount of your audience?*

**Bennett:** We've found that we have quite a few listeners up there from the amount of requests and contest participation on our Salt Lake City metro line.

*BP&P: Do you program to Salt Lake City as much as you do to Provo?*

**Bennett:** No, we don't. We are a Utah County radio station, and a Provo radio station. We feel our area is a big market and a growing market, and we're growing right along with it. At the same time, anything we get in Salt Lake City is like fallout. We hope that we are professional enough, even though we're in a smaller market, to attract listeners in the metropolitan area with some of the things we do. Examples might be our midnight feature album, or three-in-a-row music, or a thing we do called "concert set" in which we'll play three songs by a particular group or artist back-to-back. We do those throughout the day.

*BP&P: Do you run a lot of promotions or contests? Also, what is your basic philosophy on on-air promotion?*

**Bennett:** Our philosophy on on-air promotion is audience participation. We think having a good prize or group of prizes is important, but secondary to people having fun. Another good point in promotion is being able to capture people's imaginations, trying to identify with them emotionally. Our promotions run the gamut between the really hip promo type to just giving away record albums. We like to have people call on the phone to chat, etc. The prize should not always be the object, we just like to have fun with the audience.

*BP&P: What is your personality line-up?*

**Bennett:** It's Tom Walker in the morning, that's me. I'm followed by Paul Orchard in mid-day, who came to us from KOB, in Albuquerque, New Mexico. After Paul is Don Bishop, who is probably our strong point. He's worked at K100 in Los Angeles and KNUS in Dallas, and is a very good jock. At six in the evening we separate the AM from the FM. On FM from six until ten is Wayne Richards, on AM is Frank Connors, a young guy with an amazing voice. He really has a lot of talent and potential. From ten until two in the morning is Travis McGee on FM and Dave Hull on the AM; Dave Hull is his real name, by the way, it's not a rip-off. From two until six in the morning is Lyle Morris on FM, and John Landry on the AM. We work six four-hour shifts around the clock with a jock on each the AM and FM from six p.m. to six a.m. in order to be 50 per cent separated. In May we have to be split 75 per cent which means we'll be splitting our mid-day as well.

*BP&P: Do you have a clock or formula for executing your format?*

**Bennett:** It's complicated, so I'll just say that it's about half gold. Drive times we'll play a few more hot records, and we'll get into some album cuts at night. Currently, we think Billy Joel's 52nd Street album is good. We're playing three different cuts from it all in "B" rotation because none of the cuts has surfaced as a hit yet, so this way every five hours you hear a Billy Joel song from that album.

## KFTN — 1400 kHz

Owned by country music personality Bill Anderson, KFTN is a Class IV AM station on 1400 kHz, with 1 kw day and 250 watts nights, utilizing a Gates transmitter.

The main control room has a Gates board with 40 total inputs. Other equipment includes three turntables, two ReVox reel-to-reel machines, and four Gates Rapid-Fire cart machines. The station uses Shure SM-7 microphones.

According to general manager Chris McGuire, the KFTN production department works to provide commercials which sell and entertain at the same time. The station has a production director, and utilizes the best available talent from both the air staff and other local talent. A professional staff copywriter prepares all material.

The production studio has an eight input Sparta board, two Russco turntables, and four sequential Rapid-Fire Gates cart machines as well as three ReVox reel-to-reel machines. The studio is also equipped for reverb and echo.

General manager McGuire brings to the station a varied background, including work with Armed Forces Radio and the Nashville recording industry.

Although rooted basically in country music, the KFTN format includes a heavy dose of pop crossover artists as well.

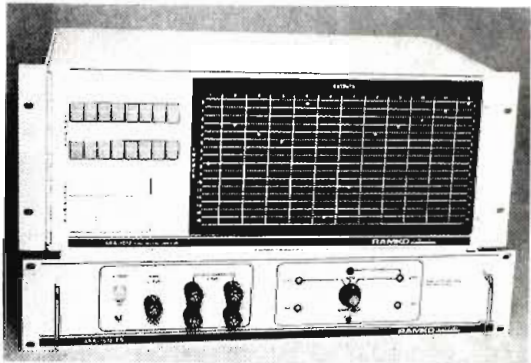
*BP&P: I perceive KFTN to be basically a country music station but with other musical elements. First of all, how would you describe your format, and how did you arrive at it?*

**McGuire:** We call the format "Utah County Radio," and we came up with it through research. It is not really a country station, but it has a base in country music, the more traditional country music.

*BP&P: What is your target audience, and how do you place in the ratings? >>*



# NEW PRODUCTS & SERVICES



## ELECTRONIC PATCH PANEL FROM RAMKO RESEARCH

At the recent NAB, in Dallas, Ramko Research introduced their new model ARA-1612 Audio Router/Amplifier. Sometimes called an "Electronic Patch Panel," the ARA-1612 offers the audio engineer a degree of flexibility and versatility never before available and at a price reported to be much less than a conventional patch panel system. Sixteen mono/eight stereo or a combination of mono and stereo audio sources can be fed, simultaneously or individually, to up to twelve outputs without any interaction between locations.

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## ELECTRO-VOICE INTRODUCES SHOCK-MOUNTED CARDIOID MIKE

A new shock-mounted super-cardioid microphone, the RE18, has been introduced by Greg Silsby, Professional Products Manager at Electro-Voice.

Although primarily intended for hand-held broadcast applications, the RE18 is equally at home in any situation where ambient noise rejection and isolation from handling noise is a consideration. "A good example," reports Silsby, "is the mechanical stand and lectern noise commonly encountered in sound reinforcement systems. The RE18 effectively silences these annoying sounds."

Silsby notes that the RE18 has a great heritage. "The RE18 maintains the superb frequency

response and super-cardioid polar pattern of the famous RE15 microphone while having an integral blast filter for "P-pop" protection as does the equally famous RE16." The Variable-D® design of the RE18 has the added advantage of maintaining its frequency response regardless of mike-to-talent working distance. "Frequency response is also maintained if the talent happens to get a little off-axis," adds Silsby, "with these additional advantages, it would not surprise me to see the RE18 showing up in recording studios or other music environments."

The RE18 carries a suggested retail price of \$226.00.

**ELECTRO-VOICE, INC.**  
600 CECIL STREET  
BUCHANAN, MI 49107  
(616) 695-6831

for additional information circle no. 14



## QUICK REFERENCE PRODUCT SELECTOR FOR UMC BROADCAST

A condensed, six-page Quick Reference Product Selector has been produced by the Broadcast Products Division of UMC Electronics Company to provide capsule information about all of the products in the UMC line.

A photograph, short description, and price are provided for each UMC broadcast product. Cart machine rack adaptor kits, accessories, and options are also included. Models covered by this Product Selector include Beaucart Series 50 audio cartridge tape reproducers and recorder/reproducers, Beaucart Type 20 reproducers, recorder/reproducers, and motorized Azimuth machines, Beaucart II reproducers and recorder/reproducers, multi-cart 4-D machines, automatic splice finders, broadcast audio consoles, news recording systems, Beau replacement audio heads, and Beau hysteresis synchronous tape drive motors.

For a free copy, write to Product Selector, Broadcast Products Division.

**UMC ELECTRONICS COMPANY**  
460 SACKETT POINT ROAD  
NORTH HAVEN, CT 06473  
(800) 243-6178

for additional information circle no. 15

## NEW TOLL-FREE SERVICE FROM AMPEX

Ampex Corporation's audio-video systems division has inaugurated a 24-hour toll-free telephone system for ordering spare and replacement parts for the division's professional audio and video products.

Parts orders will be placed the day they are received, and a follow-up service is provided to insure prompt delivery.

The toll-free number for California is (800) 982-5875. The toll-free number for the remaining contiguous states is (800) 227-8402.



## TELEX SPORTSCASTER II

A new professional boom-mike headset for live sports broadcasting has been introduced by Telex. Specifically designed for use in moderately noisy conditions the Sportscaster II is effective for broadcasts from a press box, interviews on the sidelines, or reporting from the playing field or track.

The Sportscaster II (Model CS-91) features an omnidirectional broadcast quality dynamic microphone which clearly transmits the announcer's voice over colorful crowd and background noise. An in-line push-to-cough switch lets the announcer mute the microphone when needed. The circumaural cushions of the binarual headphone receivers attenuate noise to let the announcer monitor the program in one ear while he receives cues in the other. Extra comfort socks for the ear cushions are included. A snap-on foam filled headband cushion provides ventilation during prolonged periods of use.

The Sportscaster II comes in low luster grey and black to minimize glare or reflections on camera.

**TELEX**  
9600 ALDRICH AVENUE SOUTH  
MINNEAPOLIS, MN 55420  
(612) 884-4051

for additional information circle no. 16

## O'CONNOR OFFERS BLORE MINI-DRAMAS

Chuck Blore's Mini-Dramas are now available for syndication from O'Connor Creative Services, Universal City, California. Mini-Dramas are a made-in-Hollywood marriage of superhit gold chart winners and specially written dramatic sketches played out over their introductory music. Five-hundred-twenty sketches, averaging 45-seconds or less, are now available in every market. Gold . . . with a unique, attention-getting dimension added. A comprehensive Mini-Drama operations manual explains how to air the service. Sell them or treat them as important programming and audience promotion tools.

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P.O. BOX 8888  
UNIVERSAL CITY, CA 91608  
(800) 423-2694  
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Hawaii and California]

for additional information circle no. 17



audience characteristics?

**Stone:** I don't think Top 40 can be defined the same way as in the past. I think people are becoming a lot more sophisticated and this means that Top 40 operators are having to change to meet the change in their audience. The 16-year-old of today is much more sophisticated and knows much more about the world than the 16-year-old of say five years ago. I don't think the hardcore teen station is as effective as it used to be. As the audience changes, we have to change along with them.

**BP&P:** How do you select your music?

**Stone:** We do it on national trade magazines, local research of record stores, and by requests somewhat, too.

**BP&P:** The KEYY personalities seem to keep a "high profile" while on the air. What is your feeling on the role of the personality in your format?

**Stone:** A personality is very important in our station as we are a promotion-minded operation and like to encourage listener involvement. A personality is vital in carrying out that promotion correctly. You can have the best promotion in the world, but if the jock you have pushing it on the air isn't excited about it, you can't expect the listener to be excited either.

**BP&P:** Tell me about your air staff.

**Stone:** Rick Shaw and David James do our six to ten in the morning drive shift, kind of a double shift actually. David is our news director as well. They do lots of personality with bits, etc., and lots of high energy. "Buffalo" does our mid-day, and then I do afternoon drive from three until seven. Lee Kelly does seven to midnight, and we have a girl, Jana, who does all night.

**BP&P:** How about promotion, both on-air and in the community in general?

**Stone:** We use bumper stickers, also billboards from time-to-time, plus we always try to have an on-air promotion going. We also like to try and tie in with the high schools and colleges a lot; have dances, etc.

**BP&P:** What is your approach to news?

**Stone:** We do news on kind of an entertainment basis, not just hard news. We do it with the newsman as a personality instead of a news director. We'll offer some harder news in the mornings with more entertaining feature type information in the afternoons. Our audience doesn't want a lot of hard news shoved at them. With a younger crowd, news just isn't as important as with an older demo station, say over 35.

**BP&P:** How do you handle public affairs?

**Stone:** We have a full-time public affairs director with most of our programming on Sunday morning. She is also in charge of the public service announcements that we run.

**BP&P:** What is the Provo market like from a competitive standpoint?

**Stone:** It is very competitive. Radio here is pretty good for as small a market as it is. The stations here are as good as a lot of the medium to major market areas. We have a lot of talent here because this is such a desirable place to live, so consequently we have some good radio. The market is very competitive with all the stations very close in the ratings.

### KABE-FM — 107.1 MHz

Literally the "new kid on the block," KABE-FM has only been on the air since late 1978. The station is on 107.1 MHz with 3 kw, and is licensed to Orem, Utah, which adjoins Provo.

The KABE-FM operation uses an ITA 5000-B 5 kw transmitter, running with an ERP of 3 kw. At the studio, the music is run on three Otari reel-to-reel tape decks which alternate using a sequencer made by the station engineering department. The master control room also has four Moducard cart machines, with a separate sequencer for the cart units. The board is a CCA Futura Six stereo unit. All microphones are Sennheiser 421U. Station monitors are Bel-Air, and the audio chain includes the Orban Optimod.

Because of the sequencing capabilities of both reel tape decks and cart machines, it is quite easy for the announcer to be doing production work while he is on the air from the same studio. The format calls for only four breaks from the music per hour. Thus, the announcer can be using the studio for production work while the sequencer operates the on-air format. The station is also constructing an additional production room which, when completed, will house one Ampex deck and two ReVox models.

According to operations manager Steve Miner, production work is divided up among the announcers who work a combination on-air and production shift.

KABE-FM is still in the start-up phases of their operation, but is on the air 18 hours a day with an adult contemporary format.

**BP&P:** KABE is literally brand new, having only been on the air for about three months. What have been some of the obstacles in getting going?

**Miner:** Certainly one problem is that we came on right at the beginning of the Christmas season. Our initial goal was to get on last July, but because of a variety of engineering problems, we were greatly delayed. It was a little tough coming on right at the holidays as the untried and untested new station. My own feeling is that if you can sell successfully in the Utah County market, you can sell anywhere. However, we find that when we go in to see retailers they will say that they either don't use radio at all or that they have an interest in us. We're flattered in getting the same responses that a salesman from any of the other established stations might get.

**BP&P:** You define your format as adult contemporary. How did you arrive at this type of approach, and how is it being carried out?

**Miner:** The station owner zeroed in on what to present early on. He felt that all of the programming being offered here in the market was with an AM type of approach. K-96 sounds the same on FM as on AM, KEYY is pretty much the same but with a slightly younger target, and there is KFTN which is basically a country music station with a lot of pop music as well. All pretty much take the traditional AM approach. Before K-96 became KAYK, the FM was known as KFMC and pretty much adhered to the FM tradition of a lot of music and very little else. Anyway, they always did well in the ratings, but suffered somewhat when they initially changed call letters and format, at least on the FM. We wondered where those music oriented FM listeners had

gone and decided to zero in on them. Also, most of the other stations in the valley emphasize the current songs. We don't want to be known as an oldies station per se, but strive for about a three-to-one ratio in favor of the past hits so the listener will come to expect to hear his favorites. We play memorable music.

**BP&P:** What is your on-air approach like?

**Miner:** There are four breaks per hour; three two-minute breaks, and a fourth one just before the hour that is two minutes back-to-back with a two-minute newscast. The breaks let the announcer establish himself with the audience. We want the audience to know that there is someone there playing the music for them, supplying weather conditions, the correct time, and some news. Just a general information source to pass along what's happening around town and so forth.

**BP&P:** Where do you get your music?

**Miner:** From a company called The Innovation Organization. We're satisfied with their product so far.

**BP&P:** What about your air staff?

**Miner:** Well, I do mornings from six until nine. Mike Buchanan is in from nine until noon. His past experience includes a stint in Manti, Utah. He's followed by Leland Christensen from noon until three, who is very involved with the engineering side of our operation. From three to six in the afternoon is Rick Price. Rick has a background in Armed Forces Radio; he also sells for us part time as well. From six to nine in the evening is Kevin Shiley, a college student who is doing a great job for us. Finally, from nine to midnight is Earl Larsen. Earl is good in that time slot because of his very relaxed approach. On weekends we have Tony VanViter, Jim Mills, and Wes Gibbs.

**BP&P:** How does news fit into your sound?

**Miner:** We're not real heavy in the area of news, because we bill ourselves as a music station. We do attempt to keep our listeners informed, however.

**BP&P:** Being brand new in the market, how have you been promoting the station?

**Miner:** We've done some newspaper ads and have other things coming up such as billboards and bumper stickers. We're not super promotion oriented on the air because we exist for the person who wants to hear a lot of music when he tunes in.

**BP&P:** A final question... what is your general appraisal of the market, from the viewpoint of the newest station?

**Miner:** Our valley is a long string of small towns actually, but they're all so close together it's hard to differentiate. Basically, we have to program in terms of the whole county, taking all the tastes and interests into consideration. The county is a difficult one for radio because of the signals of the large stations coming in from Salt Lake City. There are times when those Salt Lake stations will show up higher in the ratings here in our county than the local stations, which, of course, is disheartening; but just something you have to live with when you're in an area which has that umbrella effect from a nearby large city. The county has matured drastically in terms of radio in the years I've been in the area. I think our market as a whole has come a long way.



# If Technics RS-1500 meets the high standards of A&M Records, why did we improve it?



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A studio production switcher with built-in microprocessor to provide sequence setups, yet simplified operation was shown by 3M Company's Mincom Division at the recent NAB, Dallas.

The 3M Model 9000 Video Production Switcher with microprocessor offers a long-awaited departure from traditional switcher design. The use of microprocessor technology allows for simplified control panel design and layout. Built-in memory allows preparation and storage of up to eight panel set-ups for recall during difficult production sequences.

More than 20 effects are selected by a 10-key input bank. Twelve inputs, including black burst and color background, are available. Effects are generated in hard-switch, soft-switch or border-wipe form, and a chroma-key feature is optional.

Capabilities of the new switcher include: wipes behind key, dissolves or cuts to key, dissolves to effects, fades to and from black and dissolves behind chroma-key.

The 3M Model 9000 Video Production Switcher is currently available at a suggested price of \$11,900.00.

**3M COMPANY  
P.O. BOX 33600  
ST. PAUL, MN 55133  
(612) 733-9853**

for additional information circle no. 18



from: **W. LeRoy Schneck**  
General Manager  
WNAE Radio  
Warren, PA

Your article on "The Nation's Station" in the March issue of *BP&P* is a delight.

I was a teenager in the 30s and I certainly remember the super power of WLW. I started in the business in 1941 when they were still using the beast on an "experimental" basis. They had about as much signal a mile from our transmitter in central Pennsylvania as we had with our 250 watts.

Some of my younger staff members found the whole story incredible. I keep telling them we had some interesting things going for us in the "old days." I'm looking forward with keen anticipation to your "expose" on Doc Brinkley.

from: **Earl McDonald**  
Dallas, TX

I picked up a copy of your magazine (*BP&P*, March, 1979) at NAB, Dallas . . .

If you never do anything else worth a damn, the piece on WLW by John Price was worth the eight bucks [subscription]. I laughed and cried and haven't enjoyed anything that much in about a light-year.

Please start me with the May issue. I want the one about Brinkley. I have worked for Jim Weldon, at Continental Electronics in Dallas,

who was Brinkley's high power man. I don't want to miss that!

**WNCN-FM KEYNOTE MAGAZINE**

TRG Communications, Inc., has been retained as the sales promotion agency for Keynote, the programming guide for radio station WNCN-FM, New York City's classical music station.

An ambitious 12-month program has been developed by TRG which will include marketing and circulation promotions

throughout the year for the monthly guide.

According to Richard Smiley, vice president of TRG, the company will work to make Keynote an integral part of New York City's cultural life. In addition to its detailed hourly program listings, Keynote also features articles about various aspects of classical music and the recording industry. Future plans call for expanded coverage to include more of the lively arts.

WNCN-FM is owned and operated by the GAF Corporation.

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