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WKRP IN CINCINNATI
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 light this?"

May Higgens, 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 goggle, but they do it while encased in middle-to-large gridles, 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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The Cover:
The “staff” of TV’s radio show — WKRP In Cincinnati. Photo courtesy of CBS Television.

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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, Ascertaintment 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 Ascertaintment regulation. They believe also that the bill would have a similar impact on the television industry in that it would eliminate immediately Ascertaintment 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 deregulation, however, they are not as far-reaching on eliminating Fairness, Equal Time, Ascertaintment 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 Ascertaintment, 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 Ascertaintment, 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 Califano’s” to determine that a totally de-regulated broadcasting industry is “hazardous to their health.”
What shock absorbers do for cars...

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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 Hesseman, 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 Critics 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 character is really quite limited to a limited amount of people. It’s John 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 just have a couple of pairs of dark cords and a half-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 with black jackets and towering boots, 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 KFWB, 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 did 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 Sancy, “The show is 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 a Tuesday, 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 largely a suggestion for camera angles and sound. It was 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 take something good from off the side. 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. Every show has 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 deserve 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 Mondays when we shoot 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 associate producer 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 into the night. There are usually some significant changes after Wednesday because the blocking must be locked down for the impending camera rehearsal.

During rehearsal the actors will make 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 two full days of shooting for camera and sound. Thursday and Friday are usually not significant changes after Wednesday because the blocking must be locked down for the impending camera rehearsal.

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 tape two shows in front of an audience, but elected to go with the current procedure for some very interesting reasons. According to Rod, “It’s entirely to the advantage of the audience to get to know the cast and the actors since they’ll be involved the next day. And it’s entirely to the advantage of the audience to get to know the cast and the actors since they’ll be involved the next day. They’ll be able to tell how much they’re enjoying the show and if it’s a success or a failure.”

The next day the cast and crew will be involved in a live audience rehearsal. 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 lockout 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 conventiongoers 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 RCSN while attending Cal State Northridge in Los Angeles, and at KGGE 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, production chief 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 last season 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 its final days, Wilson started putting together the basic idea for WKRP. With encouragement from MTM head Garry Tinker, he flew 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 is quick to remind me, and his coworkers, that with the WKRP people, the radio elements are as real as possible, 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 do. The listener is less willing to keep WKRP on the air and not radio stations. Things like dead-air, the lack of head phones, 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, you 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 KGLM 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’s Hunt’s Tomato Paste and many others.

His radio background started at WDLR in Delaware, Ohio, in 1965. Over the years he has worked at WGOO 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, field 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, and during a lighting change when a 10K 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 couldn't live without. The most 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 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 Brennan and associate director Linda Day to Producers Services in Burbank, where the 3/4" tapes are edited using the CMX System 500 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 the show 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 tapes are sent for sweetening. 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 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 real 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 radio is hard enough; but doing radio on television is something else.
Direct drive made Panasonic Series 9000 a great 3/4" editing system. Here's what makes the new 9000A an even better one.

The new Panasonic Series 9000A offers even more impressive performance, even more quality, and more professional features than the Series 9000 did last year. And we still have the lowest price tag in the business.

The new system consists of the NV-9500A editing recorder, the inexpensive NV-9200A player/ recorder, and the NV-A950, the versatile editing controller that goes between them.

Together, they deliver the cleanest Panasonic frame-to-frame edits ever. S/N ratios are our highest ever, 46 dB color and 50 dB black and white, thanks to new crystal-oriented HPF™ video heads. And in addition to those crisp, clean edits, you get reduced audio delay at the edit point. And substantially increased frequency response at the first generation.

That's not all. The newly increased frequency response works with a patented dubbing mode for even better dubbing quality. And still another of the many important improvements is a new tape guide path on the video head cylinder. It reduces tape edge movement for an even better RF envelope, and an even better signal—the best yet from Panasonic.

You get all these improvements, plus professional features you can count on in a Panasonic editing system: Like controls that are completely solenoid-operated. A separate RF output for use with an external DOC. Even subcarrier and external sync inputs for use with a time base corrector.

The Panasonic Series 9000A ¾" editing system. The only thing that looks better than its performance is its price.


Exterior cabinetry is simulated woodgrain.
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 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 cast 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 the data related to the business. At WNAC-TV the database 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 medium. 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 system, the complete and precise data is entered into the system. The Master Control engineer would consult his operational log and roll the right commercial at the proper time. Exact timings of each log element were not essential. 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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 "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 problem.

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--a constant from automation as Memphis is from Timbuktu. 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 find 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 subsidiary, BIAS (Broadcast Industry Automated System) began to grow more rapidly than they had hoped or thought it could.

In 1970 the company's grosses had been about $180,000. In 1975, it shot up to over $7 million. The 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 design of the interface. It is during the prime mover in the broadcasting 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 switched 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 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 opened the door to a whole new crop of TV stations regardless of the type of master control switching equipment in use at a station.

Data Communications Corp.'s BIAS has been working on the standard interface since 1975. The systems vendors had been wrestling with the technical automation problem since 1969 and when the minicomputer made its entry into 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 interconnections 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 personnel and the complex technical switch on needed to maintain quality of transmission, BIAS conducted a crash research engineering program to provide the full 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 achieve the interface between BIAS 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 in November, 1979, and the 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 time in the industry the station went on-the-air for the first time with a total automation system.

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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-Netowrk. 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 Pough Radio Stations, WPLO-M, 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 Bates, the well-known British radio executive and consultant to Data Communication Corp’s 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 its 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 determining 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 microcomputer 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 automatically routes orders 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 broadcasts, traffic, weather or market reports, breaks may now be ordered for specific segments and orders entered or availability requests 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 Dataform 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 broadcasting 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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**For additional information circle no. 8**
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, WAOVS-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 WAOVS-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 origination at the other two stations.

The configuration for the Horizon Mini-Network system consists of a mini-computer, three CRT's and two operational printers at the flagship station, WKOW-TV, with each of the other stations utilizing a Micro BIAS processor, two CRT's 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 Selenga, 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 Selenga, "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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for additional information circle no. 7

BP&P 13
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 beat 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 humble 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 chapparrel 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 Tuckaegee (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. Visitors were led through a museum containing graphic paper-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 farman 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 Teihona Jones at the home of her father, Doctor Iberius 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 "Greevville (South Carolina) Electro Medic Doctors" until the credit line ran out. They split, and the Brinkleys drifted to practices in Judsonia, Arkansas and nearby Earl. 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 diploma 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 Rough 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 fadind dreams of middle-aged men, coupled with the natural attributes of young Toggenberg (odorless) 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 "maz stones" 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 KJH. "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). WOY, New York (International Broadcasting Corporation) also used the frequency until 6 p.m.

Doctor was a natural for radio. His North Carolina manners 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 transplant (although men by the hundreds were now regular listeners). 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 variant 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..."
### 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, sat in a World War I truck, arrived from the railroad station with ten or twelve impotence. Howard Wilson would be bustling about the herd room. Dr. Osborn was busy with his charts, the Chieftain Surgeon ready in starchy white and rubber gloves. Framed in the hospital doorway was Minnie Teltlha. “Hello, come by?” 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 but with a few exceptions, made basically well people weller. 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 callophonic 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 damper which shared the 1170 channel with WCAU, Philadelphia. He also opened the KTNT Cafe, KTNT Oil Station, an advertising agency, a correspondent for the Western Drug Company . and the Baker Hospital.

His institution fooled around with varicos 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 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 Bethlehelm 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 nostrous 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.

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 damper. 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 Sam’s Plow, 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 station transmitted with them, 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 baling 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 — 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 Caria 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.

Festival 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, 7 days a week and a 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 Prespontid copy.

Gradually the novelty of the new X station wore off, and the thin veil of doubt about the reality 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.

Characteristically good amid the blatant: Jimmy Rogers, Honey Boy and Satsalas, and Brian 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 when the XED was 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.
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AMP Ex MAKES IT EXC IT IN G.
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 stillled. 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. Fifty-nine 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 news. Norman Baker was being XENT to trumpet his cancer cure now that the FRC had shut down KTIN, in McComb, Iowa. He decided to forsake Gringolanda 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 this side of 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 Ciudadanal on its banks.

In case anyone kept count, 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
- KENT, 1115 kc, 150,000 watts
- XEPN, 585 kc, 100,000 watts
- XEW, 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 listeners kept coming in 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 reallocate 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 lewding 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 ranch 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 cursive upholstery and green wheels to the studio. Parsons thumped the Bible, explaining they were "a'gainst 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 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 MILDROF 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 flatop, 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 beam and the front flatop. It was a second flatop, 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, not hot. 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 "spokes" 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 Ciburons 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 Maybelle 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. >>
Preumably 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 racks for the frames.

Since the industry was changing from longwire, or flat top antennas to vertical radiators, it appears that XERA's tri-corner was modified, too. Two vertical "cages" of wires were fashoned, to be supported at the center point of wires strung between the original towers. These were 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 cox.

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 amplifier, which could be independently operated, and which were parallel combined.

(Only nine of the 320s were ever built. None ever failed in service, although only developed a mysterious crack in the glass envelope. None of the monitors at the station would look 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 biggest increase 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 frizzled up the cages when chickens and peons ran for cocher.

"Good evening, 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, Gendale, 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 folks at the State Department.

"Come to Del Rio, in the valley of the roses, resting on the pillow 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 acres in North Carolina and two citrus groves here in the Valley. I have an advertising agency, an Arizona gold mine and a ferrey. 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 cockpit — 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, Senator Walter Buchanan. (Buchanans?)

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

As always, many thanks to many people for information and help in some highly unusual research: Thanks to James Weldon and Nestor Questa, Continental Electronic, 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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**At Last, a Cart Machine that Keeps its Cool**

Telex/Magnecord broadcast cart machines run cool and steady. So cool no ventilation is required, so steady not even voltage or frequency fluctuations will alter their speed. Thanks to our dc servo flutter-filter drive.

The MC series offers broadcasters a host of options, including field convertability from mono to stereo or play to record and, of course, end of message, secondary/tertiary cue tones.

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Four broadcast cart machines to choose from in the Telex/Magnecord MC series. Running cool and steady. With a pleasant surprise — they're affordable.

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Europe: 22 rue de la Legion-d'honneur, 93200 St Denis, France
Canada: Telcon Electronics Ltd., Scarborough, Ontario

for additional information circle no. 11
"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 dreams go on for a week, 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 were to move to another 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 No. 2 Gringo after all. Anyway, orders came from Mexico, D.F., banning:

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

XEAW dropped the medical talks, closed the McAllen studio and spirited the fortune-tellers off on 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 Federals stormed the transmitter complex one night, cut 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 San Juan, because he once called it "a judgment." 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 "reallocated," 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 "pleasantly pleased" by the decision 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 channel had been changed to 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 "Anxiously."

There were no 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 "tonsilectomy" and "hemorrhoids," or so his proud radio mommy poetically 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 1934 Broadcasting Yearbook carried an ominous listing: XERA, at 840 kc, operating a CP of 850. 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, 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.) Doherty 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 trodes 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 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 prostitutes.

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 large generator 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 WBJ's frequency. Except that Questa did his job so well that it wasn't WBJ's anymore. "We put a tremendous night into WBJ and then blew WBJ off the map just north of Boston."

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

At Piedras Negras, XEPN went dark after violating some sort of sanitary code. Before it could be retransmitted, the Federal authorities were unclear. Bill Branch, having lost the first station which was a personal investment, went to work building a new one in "Tiajuana." The call would be XEO. Remember that one.

The bustling towns south of San Diego were getting their own borderblasters. XERB at Plaza Rosario 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 kw, broadcasting from the Foreign Club and the Aquila 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 said 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 most of the 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 masking 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," Dorrough insists, "so why distort one-half of the waveform just to raise the other one and trade-off the information? What 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." Dorrough, who feels additional means of control is needed, Dorrough 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 concedes. "What the DAP does is to put a peak 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."

Dorrough 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 using only the DAP 310 at the original factory settings until listening quality has been fully studied. Dorrough 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 acoustic world," notes Dorrough, 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 up to the 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 Dorrough is Milford Smith, chief engineer at WPGC-AM, 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 competently processed. One result of 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 Cronesoe, chief engineer for Los Angeles-based KMEX, notes that 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 Dorrough DAP," he says.

For many in Los Angeles, 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 Dorrough, Mike's wife and business partner. "In the "loudness war," the 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."

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, and, 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 "KDAT", loaded into a reside and toughened up. Available at the factory are a cross-section of the Dorrough unit's half-dozen multi-band competitors.

(Also competing for attention in the Dorrough Electronics facility are dozens of vintage juke boxes, scores of aging radio receivers and thousands of classic 78 rpm records which represent Dorrough's other passion, saving and restoring sound sources of the "Golden Age" of radio and recording. Partly, through "horse trading" of modern audio equipment, Dorrough 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 else," Mike jokes, in reference to his regular 10,000-mile jaunts in search of customers and memorabilia. "We also use the phone to get — I've made it clear that anyone who asks a question or a problem regarding a DAP may call me at any time, collect."

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

BP&P 20
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 Dorrough.

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 Dorrough who pioneered the fundamental concepts employed in most modern audio processors.

Dorrough 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, Dorrough 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."

Dorrough 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 Dorrough, "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 a 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" in punched in the rest of the music, causing it to be pushed too far down to hear. This dynamic inversion is also audible during commercials 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."

"A television broadcast, a wide-band processor may make its presence known during old movie soundtracks, as cracking film noise is brought up during pauses in dialogue."

The wide-band method has a tendency to let the "loudest" sounds dominate, Dorrough 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 Dorrough 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.

Dorrough's solution was multi-band audio processing.

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

The key word in the Dorrough approach is "discriminate." His 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 range, as the in-house 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 impression of a sensation of a total sound, rather than small parts of a program source. When the giding 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. At the same time, as much as a 15 dB AGC range can be obtained without degrading program material.

The equalized output of each bandpass filter is led into its own compression network, with user-adjustable controls for setting average levels for a desired ar 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. Added to Dorrough's formula for the DAP is soft clipping, where 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," Dorrough contends, "the only way a station..."
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 the circuit 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 different program material.

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, featuring an RMS power sensor for amplifier action rather than the peak sensing control used by most other units, including the Dorough 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 clipping circuit.

"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 Multimax 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 processors 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 Dorough unit.

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

"We use two discrete gain controllers," 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 changing 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 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 Multimax AM or FM.

Pacific enquares 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.

Like the Optimod-AM, Greg'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 'amphora' 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 input and output 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, Greg's Model 2640, like the other non-Dorough 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 Greg's release on the device. Comparable information was not available for 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."

Dorough recently participated in a test of the Leonard Kahn stereo broadcasting method at WFBR-AM, in Baltimore. Using a separate DAP for each channel, Dorough reported improved "dynamics and punch" even on mono receivers, comparable to FM quality. He attributes much of the credit 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 nullified against the original DAP in an AM stereo application using a pink noise source.

But before the would-be AM stereo station operators 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 enough to conduct a process of the importance 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 agreed 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 may 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 - even the stronger 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 B&P," says Parke, but in the meantime we asked Dorough Electronics' major competitors in the field of split-band processing to compare their products with the Model 310 DAP.

Orban Optimod

"The Dorough 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 simplified form of (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 so that, we feel, 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 by 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 air sound. Since we use six bands and a 12 dB per octave slope, our unit has more selection and less interaction effects than the DAP. If substantial 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 Dorough 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 a program-controlled release time in both bands, resulting in an overall psychoacoustical masking effect that he believes is more effective than the Dorough DAP.

After the six bands are recombined, the signal is passed on to a polarity switching circuit designed to assure 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 have the advantage of it that 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 ears hear distortion, so that loudness can be adjusted to a level just below perceptibility of distortion, for maximum effectiveness."

Orban agrees with Dorough 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
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: What 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 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 attracted to radio drama?
McGuire: We're getting good numbers 18 to 49, and over 50 as well. The young people listen because its 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-time 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 James Corbin 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 editize 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 92 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 25 per cent of the population. There is no question that country music is becoming more and more popular. If you'll notice in the October 1976 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 man had to sell 10,000 records or he didn't make it. Now 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 for country music. I've been playing Willie Nelson 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 JTC cart machines; one about five years old, and the other 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 key transmitter is a Gates BC 1G, 1 kW, which is about 15 years old. A highly modified Dorrough processor is also used in the audio chain.

The production studio has a four-channel TEAC board, with two Russco turntables and JTC cart machines. According to engineer Carl Watkins, when commercials are being produced both in the morning and afternoon 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 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 are now at 12 of 50 radio stations. As a program director, what trends can you discern in music, approach, or
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 Martin SF-25B 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 cased. The station uses Sennheiser microphones in all studios.

Production duties are divided up equally by William C. Cornwall.

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.

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, housewife in the mid-day, with the tempo picked up 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: 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-Fires. The stations are 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 a really 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 rankings? >>
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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.

KABE-FM — 107.1 MHz
Literally the "new kid on the block," KABE-FM has 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 5000B-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 mono sequencing 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 Orion 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 music repeats on the air.

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

B&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 we are there and that we can reflect on the weather forecasts, the correct time, and some news. Just a general information source to pass along what's happening around town and so forth.

B&P: Where do you get your music?
Miner: From a company called The Innovation Organization. We're satisfied with their product so far.

B&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 following in the footsteps of Earl Larsen from noon until three, who is very involved with the engineering side of our operation. From three to six in the afternoon is Ricky Price. Ricky 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 Shively, a college student who is doing a great job. We've tried using interns from nine to noon, but we've found that he's better suited for some of our marketing work, and he's better suited for the air because of his relaxed approach.

B&P: How does news fit into your sound?
Miner: We're not real heavy in the area of news, but we are in a music market. Our policy is to keep ourselves from being in the news too much. We want to keep the station in the Top 40 market.
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**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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**LETTERS**

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 30's 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,

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