



# Broadcast Programming & Production

JULY/AUGUST 1975  
VOLUME 1, NUMBER 2

BILL MORRIS  
WWHC-FM  
BOX 185  
HARTFORD CITY IN 47348

# LETTERS

FROM: THE EDITOR

Dear Readers of BP&P:

Thanks . . .

to the many, many of you who took the time to congratulate us on the premier issue of *BROADCAST PROGRAMMING & PRODUCTION* . . . the radio and t.v. programmers, managers, owners, producers, engineers, manufacturers . . . from every market stratum . . . Los Angeles, Nashville, Columbus, New York, to Marked Tree, Arkansas . . . thanks.

We were delighted to hear that so many of you found profitable the first issue, and are looking forward to coming editions.

To reflect on a few comments we received related to the scope of BP&P, our radio coverage will not be limited to Top 40 and Rock stations, as some of you have asked. We will explore all facets of radio, including programming formats from Rock, to MOR, Talk, Beautiful Music, News, Jazz, Classical, R&B, Country & Western, Ethnic . . . We will continue to cover programming and production techniques in television as well.

In each issue of BP&P we will present a tabulation of those articles which were most valuable to you in the previous issue.

For the April/May, 1975 issue, the results as tabulated from Reader Service Cards were as follows:

1. "Some Basics of Competitive Production" (38.7% rated highest)
2. "Music Programming: An Art Form? . . . or a Business? — Clive Davis and Buzz Bennett" (24.6% rated highest)
3. "A Look At Successful Programming in the Dallas/Ft. Worth Market" (20.2% rated highest)
4. "Computer Animation" (16.5% rated highest)

A separate tabulation of television station responses, predictably, shows the "Computer Animation" television-related article rated No. 1, followed by "Some Basics of Competitive Production."

This is the second of the first three complimentary issues of BP&P, and we hope we are effectively demonstrating our ability to provide a challengingly superior magazine. After the next issue (Sept/Oct), we must ask a modest annual subscription fee of \$7.00.

Just a reminder . . . if you would like any additional information on any of the products or services advertised in BP&P, simply circle the corresponding number on the enclosed Reader Service Card, and mail it, postage-free.

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BROADCAST PROGRAMMING & PRODUCTION is published bi-monthly (every other month) by Recording & Broadcasting Publications, 1850 N. Whitley Ave., Suite 220, Hollywood, CA 90028, and is sent to qualified recipients. Subscription rates: United States, \$7.00 per year; Foreign, \$8.50 per year; Airmail, \$13.00 per year. Material appearing in BP&P may not be reproduced without written permission of the Publisher.

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Controlled Circulation postage paid at Los Angeles, California.

Address All Correspondence to:

**BROADCAST PROGRAMMING  
& PRODUCTION**  
 P.O. Box 2449  
 Hollywood, CA 90028  
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 Can Be More Than Just a Stack of  
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#### ON THE COVER:

A multiple image view of the head assembly of a Revox A 700 stereo tape machine . . . depicting the subject of Peter Butt's article on head alignment . . . page 13. Photo taken in studios of Alto Communications, Hollywood.

Photography: Gary Kleinman

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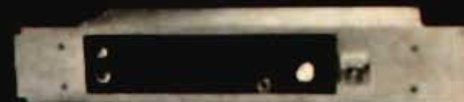
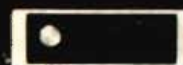
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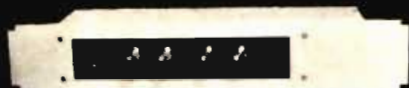
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## RAMKO RESEARCH

LETTERS, continued

FROM: Sharon Nelson  
KKDJ-FM Radio  
Los Angeles

*I really enjoyed your first issue of BP&P. Keep up the great work!*

*In reference to your article containing an interview between Buzz Bennett and Clive Davis which appeared in your first issue (April/May) I agree with the discussion on all the "tight" playlists which are senseless in the age of the availability of powerful product and undiscovered superstars. Radio is doing the public an incredible injustice by burying new talent or new product they don't believe is "mass" appeal. How does one know it doesn't appeal unless you give it a try? As of February 10th, 1975, Charlie Tuna took over KKDJ as Program Director and I was offered the opportunity as music director. Management had decided the "tight" playlist was no longer effective with anyone but teens listening for the same record every hour and wanted to gear for an older audience. Before this change the station had been playing 22 to 24 records interspersing "oldies" dating back only to 1970. They definitely had the teens but little or no adult audience. We now play anywhere from fifty to*

*sixty records in a very carefully selected rotation pattern. We have broken many new records and have exposed many new artists, a good example, "Love Will Keep Us Together" by The Captain & Tennille which went gold Wednesday, June 18th, 1975.*

*I am totally amazed at the vast amount of great product record companies have made available to the radio media and AM Top 40 is terrified of being first!! Yes, AM radio is in trouble and no one is taking the initiative to making it better. In the last rating period KKDJ lost a small amount of teens and almost doubled in adults.*

*Charlie Tuna has a favorite quote: "Behold the turtle! He makes progress only when he sticks his neck out."*

FROM: Richard N. Leibert III  
Program Manager  
KGB Radio  
San Diego, CA

*I found the conversation between Clive Davis and Buzz Bennett (April/May, 1975 issue) very amusing on one level, but very scary, too. It seems the genre of Top 40 programmers as represented by Buzz Bennett is so far out of touch with 1975 music that it flirts with extinction. All species are subject to natural selection; those mutations that are too radical to develop harmony with their environment*

*and those which fail to adapt to the changing environment disappear.*

FROM: Glen Kippel  
JH Productions  
Oceanside, CA

*Beautiful!! The industry has needed this kind of magazine for years! Suddenly the competition (you know who) is light-years behind.*

*I wish, however, that Don Elliot, ("Some Basics of Competitive Production," April/May 1975) had mentioned that before the creative production guy sticks the alignment tape on the recorder to find out if the engineer has been doing his job or not, that he demagnetize the heads and guides first! Any residual magnetism could cause partial erasure of the tape and destroy its value as a calibration standard.*

*Anyway, you are off to a very auspicious start . . . the programming/engineering interface is vital and there are too many engineers who know how a piece of gear works, but don't know how it is used, and too many "announcers" who could get a lot more out of the equipment if they weren't afraid to get a rudimentary understanding of "how it ticks." In other words, what all those knobs do.*

*Keep up the good work!*

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(n) That which is most excellent

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Choice. In reverberation, do you really have any choice except

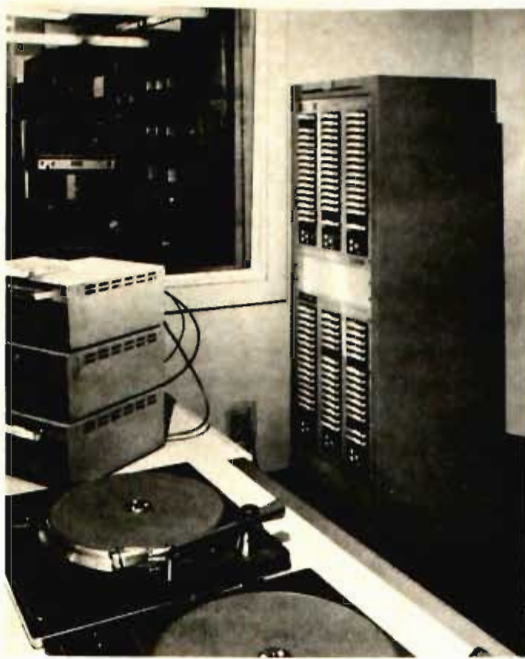


. . . That which is most excellent.

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before the ARB.\*\*\*

It is vital in today's competitive market place that a programming service be just that... a programming service and not just a music service. A total concept service with professionals backing up each format... not just tape suppliers. As to what mix and tempo to install in each market should be based on a personal study of the competition in each market.

Note that although automated formats have turned out many impressive rating success stories, one must realize that the tapes, jingles, I.D.'s, and all the other ingredients are NOT MAGIC. Automation is not necessarily for everyone. Automation has had its failures. If a station is to succeed with any format whether live or automated, it must pay attention to details. There must be a precise game plan and it must be rigidly executed. I can safely say that the stations I have seen succeed with syndication over the last six years, whether TM's or any number of other syndicators, have been the stations that do their homework and don't expect the tapes to be magic. The majority of the failures, conversely, have treated their stations and formats as though they were not full fledged competitors.

More and more, both AM and FM stations are going to syndication as a control, rather than a cost saver. While it's true that many stations can get a more professional on the air sound through syndication at a much lower cost, the really successful operators are those that reinvest a portion of the savings into areas that have previously come up short on the budget. Areas such as sales promotion,

\* TM's "1000-C" Beautiful Music Format  
 \*\* TM's "2000-C" Beautiful Music Format  
 \*\*\* TM's "3000-R" Stereo Rock Format

**SOME STATIONS SUCCESSFULLY USING AUTOMATED PROGRAMMING:**

1. WGFM, Albany, New York- Using a stereo rock\*\*\* format, has been No. 1 in 18-34 year olds and Teens for the last four consecutive ARB's. In the latest, pulled the highest share of persons 12-34 of any FM station in the top 50 markets.
2. WPTH-FM, Ft. Wayne, Indiana- Using a stereo rock\*\*\* format, achieved the highest share of audience 18-34 garnered by any FM station in the top 92 markets surveyed by ARB in Oct/Nov, 1974.
3. KABL AM/FM, San Francisco- Using a beautiful music\* format was ranked No. 1 in 25-49 year old Adults in the latest ARB.
4. KAIR-AM, Tucson, Arizona- No. 1 in adults 18+ in latest ARB using beautiful music\*

Figures based on latest ARB surveys available at press time.

commercial production, and engineering improvements. A successful station is a careful blending of all these ingredients and when the right combination of product, promotion, and sales is achieved, you've got a winner. A syndicator can provide one of these areas... PRODUCT... and hopefully advise in the others.

There are at least four major programming syndication companies now providing a variety of formats and approaches and it is estimated that between 20 and 25 percent of all radio stations in the U.S. have now gone to automation. Can automation solve your problems? Probably not all of them, but from a product control standpoint it's sure worth taking a long, hard look particularly if you have ratings, cost, and format problems. However, don't look at it as a decision to automate, look at it as a possible solution to your programming needs. If one of the formats available fits an opening in your particular station then the fact that it runs on automation is only the environment that provides a control factor for your product, and you have a product before you can effectively create that much sought after bottom line.

There will always be extremely well-done live formats. There will probably always be room for a personality approach to each type format, but usually only room for one such Rock, MOR, or Country station in each market. It's what to do if you aren't one of these stations that this article applies most to.

You don't have to be No. 1 to sell and make money, but you do have to be competitive. Most automated stations are just that, and they are accomplishing it with someone else worrying about keeping the product right.

**CASE HISTORIES:**

**THE DO'S AND DON'TS OF AUTOMATED RADIO**

*(Situations described are factual but do*

*not apply to any one radio station)*

**THE DON'TS:**

Station XXXX is located in a market of 350,000 with seven stations, four AM and three FM. They own one of the FM's, XXXX-FM, and have been simulcasting their AM's MOR format for the last ten years.

In December of 1974, the decision was made to automate the FM and put separate programming on the station. After checking all available syndicated product and asking several companies what format to put on the FM, it was decided to go rock with a major syndicator.

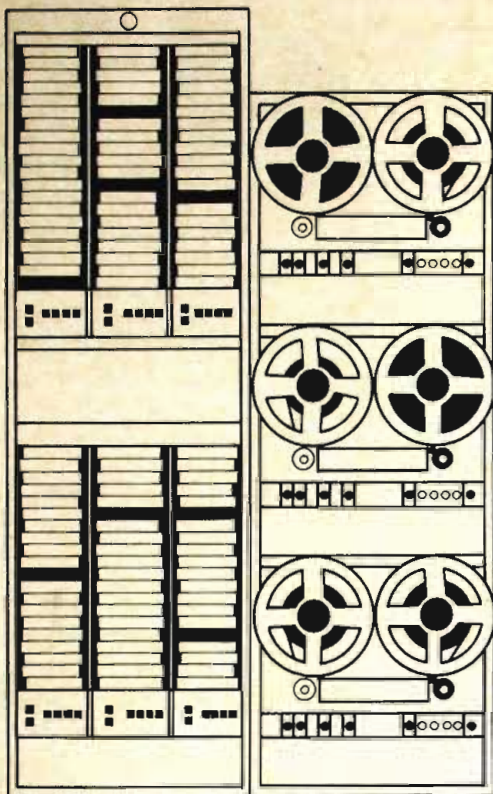
The programming company advised XXXX-FM to buy the minimum amount of automation required to run the format but the manager decided that he wanted his people to be able to walk away from the FM for ten hours at a time and bought \$60,000 worth of automation, including a computer brain and nine tape decks, as well as three multiple cartridge units to handle commercials.

As the only FM rock in the market, reaction was excellent the first few weeks on the format: however, the path to destruction had already begun. The manager decided that people really want to hear talk and information as well as a personality in the mornings. So, thirty days into the new format, a live morning man was added at \$2.50 per hour. (This was all the manager felt he could afford.) The automation and normal programming now was scheduled to begin each day at 10:00 AM.

The programming company consultant had strongly urged that the station take what money was budgeted for promotion and use it for outside promotion as opposed to contests, which were contrary to the strategy of the format. However, the program director was used to doing contests on AM and felt this was vital to making the station sound live. So it was instituted: twice per hour a contest was run via cartridge in the system and prizes ranged from \$50.00 to two passes to a movie (the latter got the sales manager a \$100.00 per week schedule from the theater.)



Example of a semi-automated, semi-manual system, where the announcer sets the programming sequence for the next 15 minutes.



# SYNDICATED PROGRAMMING

A STRATEGICALLY EXECUTED FORMAT CAN BE MORE THAN JUST A STACK OF TAPES...

by RON NICKELL

TM Programming, Inc.  
Dallas, Texas

Automated radio stations are succeeding now more than ever before. Not just in small markets, but in large and medium markets in head to head competition with live AM and FM stations. The days of looking at automation as a cheap way to get something on the air are disappearing. We are arriving into a new era, that is using automated and syndicated programming as a *controlled* environment to execute a strategic game plan for success in each market.

TM Programming works with over 150 radio stations, and works under the philosophy that when a station is considering an automated format, it is important to look at that station on an individual basis to chart out pre-set goals in their particular situation. Markets and competition must be analyzed when a station considers automation, to recommend the best way to go with new programming plans.

For many years, syndicators developed formats designed to run on automation systems, and each format that came along was basically an attempt to imitate a live radio station. But research has indicated that the average radio listener is not as involved with whether the programming is being done by a live person, as he or she is with being entertained. The approach has not been to try to go into a market and copy an already existing *live* sound on automation; the game plan is to design a sound in each area, Rock, Beautiful Music, and Country that is an alternative for the listener. This concept has been a missing ingredient for a long period of time in syndication. Coupled with the ability to adjust each format to varying degrees in competitive situations gives the flexibility to make recommendations to a

station and continue to be a viable competitor even if another station in the market makes a change.

It is very important to note that stations under the influence of larger markets can go to a syndicated format strategically designed for their situation and through its use achieve a sound that is in its own way just as good and at a much lower cost exposure than the larger umbrella market. WEZN-FM in Bridgeport, Connecticut is a perfect example of this situation. The market is bombarded by the New York City signals as well as the larger signals from markets like Hartford and New Haven. In the ARB for Bridgeport there are 29 radio stations listed faced with a rather bleak outlook as to which way to go against stations such as WNBC, WCBS, and WABC. General Manager Dick Ferguson chose to automate a beautiful music format custom blended in his market in a soft mix most of the day\*. The results have been documented by the latest ARB... WEZN is No. 1, 18+; No. 2, 18-49; and No. 1, 25-49 in Adults for the total week, and Ferguson runs virtually sold out seven days a week. Another example of this is in Salinas, Monterey, California which is under the umbrella of San Francisco as well as having eleven stations in the immediate area. KWYT-FM using a beautiful music format\*\* is No. 1 in Adults 18+ with the exception of an all Spanish station. See Figure 1 for additional automation ratings results.

Some of the earlier syndicated formats were what can best be described as bromide, that is the sound was the same in every market where the format was purchased. A listener could hear a station in Macon, Georgia for instance, and then

hear another station in Fort Pierce, Florida, and the sound would basically be identical. It is critical that the format be flexible in the areas of mix, and tempo as well as market by market day parting so that a successful station does not become static. This flexibility allows a station to adjust for varying market conditions and without it a station can lose its competitive edge and ratings as fast as they got them. For example, Bob French, the General Manager of WDIZ-FM, Orlando, Florida, reports that his station returned to a dominant No. 1 position 18-34, Adults in the total area after switching from another syndicated format aired for two years, to a stereo rock format 90 days



#### ABOUT THE AUTHOR:

RON NICKELL is currently Vice-President and General Sales Manager of TM Programming, Dallas, Tex. His 18-year background includes such positions as D.J., Program Director, local salesman, and Sales Manager, serving stations including WCMI, WHOO and WNOR. He has also served for five years as General Sales Manager of Drake-Chenault.



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Automation system currently in use at WGFM, Albany, N.Y.

Since the town was located in Middle America, and had a junior college as well as a girls' school (total enrollment 15,000), it was next decided that 15,000 college students out of a total population of 350,000 was a vital element and could not be ignored. The syndicated rock format did not get progressive enough at nighttime. In order to meet this goal (and after a high-level meeting), the next strategic move was instituted — a nineteen year old music major from the junior college was hired to do a live progressive rock show from 8:00 PM to midnight.

Three months into the format: the strategically planned and paid for programming was now running from 10:00 AM to 8:00 PM: 12 Midnight to 6:00 AM was also now live because a man has to be paid to be on the scene anyway, so he might as well do a live show to keep him from falling asleep.

Several subtle but irritating things to the listener were also taking place during the hours that the automation was being used. Since it could be loaded at 10:00 AM and walked away from for the rest of the day, there were many occasions that dead air occurred due to bad carts, tapes breaking and occasional system malfunctions. These situations caused many listeners to call the station during the hours of automation and complain. This was, of course, translated by management into a condemnation of the automation and syndicated programming. "We never get these complaints when we are live," the program director was heard to say.

Meanwhile, the company consultant for the syndicators was trying desperately to get an aircheck of the station. These were supposed to come once per month on a minimum and he had not gotten one in five months. Finally, after much pressure from the syndication company, the manager ordered the P.D. to pull a cassette aircheck from 11:00 AM to Noon the next day with the contest carts out and to remain with the system to make sure the aircheck was perfect. The analysis that was sent back was very encouraging and told the station that the format was certainly sounding good with a few minor improvements like eliminating the screaming dragstrip spots and not clustering five

spots in a row when the concept called for a triple spot maximum.

This so encouraged the management of XXXX-FM that he ordered an ARB overnight coincidental during the sixth month of programming. The results were not too good; it seems that one of the other FM's and all four AM's beat them. Management reaction to this was a phone call to the programming company exclaiming how rotten the format is and informing them that he was going live in spite of the year and a half left on his contract, and by the way, did they know where he could sell a slightly used \$60,000 automation system.

#### THE DO'S

Station YYYY is located in a market of 150,000 with 10 stations, 7 AM and 3 FM. YYYY has an FM: YYYY-FM In April of 1974, YYYY-FM contracted with a major syndicator for its rock programming service. The company's rock consultant made a total study of the competitive situation and initiated a custom blend, and tempo for each daypart. YYYY-FM's management purchased a basic and functional automation system to run the format, and spent approximately \$19,500. for the system.

An Operations Manager for the FM was hired and worked directly with the syndication company's programmer to make sure the format was run flawlessly. Walk-away time was set at 5 hours, but operators were assigned to be directly responsible for the FM station at all times. Their duties were not so restrictive that they also could not be doing production at the same time.

Response to the format was immediate as it was filling a strategic void in the market. Feedback from advertisers and listeners indicated the possible need of the insertion of some album rock at night time, so this was run past the consultant for the syndication company and after analyzing the latest airchecks from the market, this adjustment was made.

Sales were good enough at this point to add 2 more salesmen and completely separate the AM and FM sales staffs. The manager invested money in a continuing

Billboard showing; not large, but consistent, and also had a brochure designed: expounding the theories of their new format, and the company and consultant backing them up. It also had a section devoted to the local market research that had gone into choosing the approach currently being aired. On the subject of automation, a head on approach was taken as opposed to hiding the fact. Well done pictures were used of the staff loading the automation, and the brochure sheet for this section was labeled: "YYYY-FM's Boogie Machine."

Airchecks were received by the company consultant on a regular basis and ongoing adjustments and improvements were implemented; resulting in continued growth both in audience and sales.

The station has found such advantages in their size market to automation that the AM side which was doing a modern country has now contracted to use syndicated country, and a second automation system is being installed.

The same time that was devoted on airwork is now being used in creative production of spots for AM and FM, and the sales staff has grown to 3 on each station.

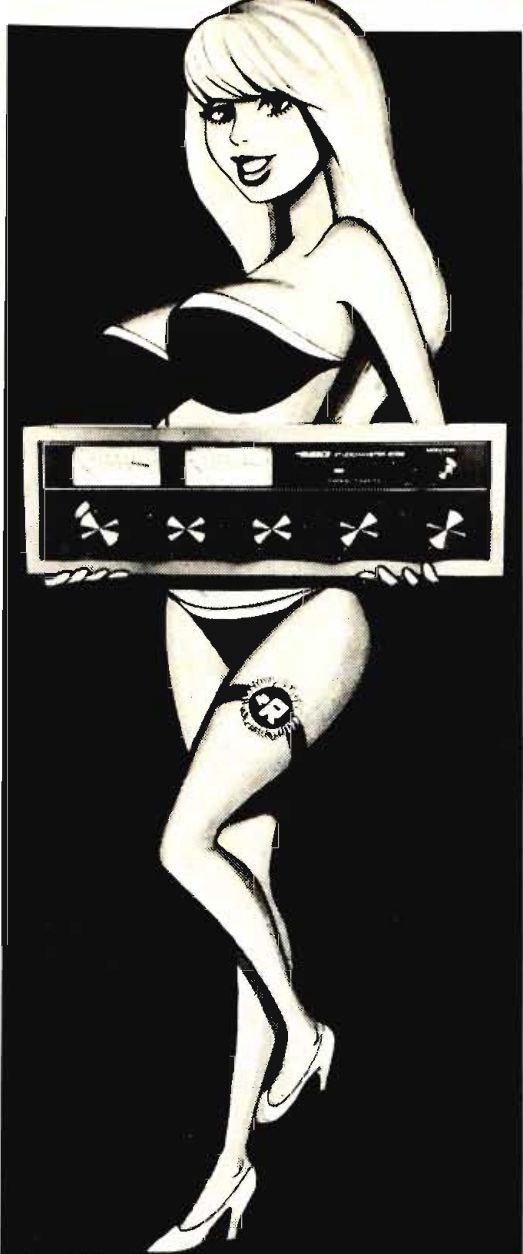
Station Management has seen fit to take the advice that is being paid for, and giving the formats and automation a chance to work. Billing between both stations is up a reported 47% in one year and overhead while down only 8% is being applied in much more productive ways and is directly responsible for this growth of sales.

#### CONCLUSION:

As pointed out earlier in the article, automation may not be for every station; but it certainly has been my experience that stations such as YYYY-FM find a completely different set of results than XXXX-FM.

Regardless of whose format you buy, or whose automation you run it on, for God's sake if you're going to pay the consultant listen to what he has to say or neither you or he will ever have any common base to work from, and any possible chance of success is severely impaired.

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panying adjustments are not the prime purpose of this discussion. For that sort of exhaustive detail, consult your maintenance manual.

What I'm primarily interested in covering here is a procedure for routine tape machine alignment that should insure relative consistency of record and reproduce signal quality if performed at least at daily intervals. Total machine overhaul is a subject I am not prepared to treat through the written word any time soon.

First, let's establish some commonality of definitions and nomenclature. Also, these comments apply more specifically to the Ampex AG-440, Revox A77, and Scully 280A tape machines. The general philosophy underlying the methods described apply to any open-reel magnetic tape recording and reproduction system.

We have depicted in Figure 1 a drawing of a hypothetical magnetic head, showing its relation to the three orthogonal axes. (The critical reader will also note that the geometry also applies to shishkebob beef cubes.) Looking at your basic magnetic head, that's how we'll refer to the adjustments of head position relative to the tape path. This is all just to get our words straight, you understand.

Let us discuss equipment that will help us in our quest for electronic and mechanical perfection in the magnetic tape medium. First of all, we'll need the usual electronic paraphernalia: a clean, flat sine wave oscillator covering the 10 Hz to 100 kHz range, approximately 0.1 to 10 Vrms output, an ac voltmeter calibrated in Volts rms and decibels, flat from about 20 Hz to about 2 MHz, a good triggered-sweep oscilloscope having 0.1 Volt/division sensitivity in X-Y mode, and a rather heavy head degausser. We'll also need some means of monitoring the tape machine output.

The normal complement of hand tools, a black felt-tip marking pen, cotton swabs, isopropyl alcohol, and a small 3 by 5-inch mirror would be helpful. This last especially is the tape deck to be aligned is operated vertically rather than in a horizontal position. A service manual for the make and model of machine in question wouldn't be a bad idea either.

Regarding the oscilloscope, a few words concerning phase agreement between channels may be in order. In the event a relatively inexpensive scope is used for the alignment process, it would be worth while to verify its horizontal and vertical amplifier phase agreement across the audio spectrum. The more expensive ones ought to pass this test, too. Connect the sine-wave oscillator to the vertical and horizontal inputs and sweep across the audio band from 10 Hz to 20 kHz or beyond. The CRT pattern should not open up, indicating phase difference between the horizontal and vertical deflection circuits, for any frequency below about 15 kHz. This is a point often missed as it is natural

to expect that oscilloscopes have horizontal bandwidths well beyond 100 kHz. This is an important matter as the oscilloscope phase pattern will be used as a convenient indicator of phase agreement between the tape machine stereo channels.

We'll also need an alignment tape for the proper tape speed and equalization standard applying to the tape machine we're about to align. The tape should be in good condition mechanically and electrically. Specifically, the tape should not have been stretched, subjected to heat, magnetic fields, or stored in a tightly wound condition.

Although NAB standard, *two-track* alignment tapes are available from various sources, I have not had cause to regard them highly. I find that tape tracking errors are more reliably detected and eliminated by visual means rather than by optimization of channel levels. I'm just insecure, I guess.

I feel that use of a full-track tape that has been recorded across its entire width is a more reliable indicator of reproducer performance than is a tape that has been selectively erased to simulate some specific track configuration.

There is a problem of inaccuracy at longer wavelengths, but that is reasonably easy to deal with. A full-track tape is fairly well interchangeable with several track formats while a tape for one specific track configuration is worthless for another.

The question of when to discard an alignment tape is one of considerable importance. They do wear out and suffer damage that render them unreliable. One way to determine the amount of degradation with use is to purchase alignment tapes in pairs and compare the readings of the two tapes at the time they are acquired. One of the tapes should be safely stored in an un-used condition while the other is put into normal service. If reliability of the tape in use appears questionable, it may be readily compared against the other unused tape and the comparative readings, noted earlier, re-verified.

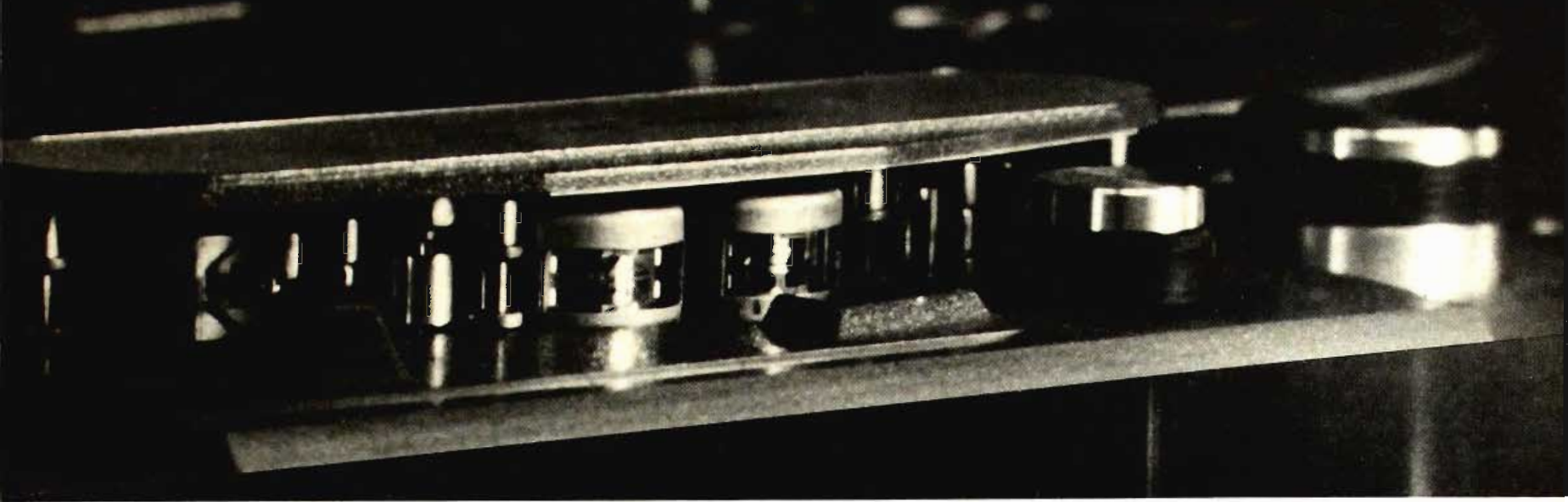
How great the degradation should be allowed to become before discarding a tape is a matter determined by the tolerance one wishes to maintain his tape systems within. I tend to discard a tape if degradation greater than 1 dB at 15 kHz is noted.

At the first sign of deformation, a tape should also be discarded even if there is no apparant loss of level. This is because *any* mechanical variation in the tape width will seriously affect the indicated azimuth. The importance of a stable, reliable, repeatable azimuth standard cannot be over emphasized. Even slight shifts in azimuth can cause phase cancellations that are quite objectionable in the mono baseband signal and cause shifts of the stereo virtual image. More about that later.

Now let's get on with the first part of

# Stereo Tape Machine Alignment For Mono Compatability

by Peter Butt



This is one of those silly technical articles written exclusively for the "other guy." I'm sure we all know or have run into the "other guy" at one time or another. You know him, I'm sure.

He's the guy who threads up his tape machine, punches PLAY and RECORD, runs a little audio onto the tape, rolls back a few feet and punches PLAY! "Yeah, it's on there," he says.

Yep.

Let me say that I have no intention of criticizing ignorange and/or incompetence. The Diety and I are fully cognizant of the role that character trait has played in my personal and professional life. It is the generally improvable quality of the stereo FM signals of my experience that has prompted me to share some of my remedial observations with the broadcasting community.

Specifically, my casual observations indicate that the virtual stereo images are either severely diminished in prominence or drift around between the stereo speakers. There seems to be a disparity of significant audio signal information above approximately 10 kHz between what comes through my FM receiver as compared to what is present in signal from a disc recording of the same musical selection.

The FM composite monophonic signal can be observed to exhibit phase interference at higher frequencies in either a constant or intermittant manner. Signal-to-noise ratios of many FM stations is fairly poor. I have observed noise floors of from -45 dB to -70 dB referred to what was evidently 100% modulation at 1 kHz, or other similar reference frequency, from one station to the next. I have also ob-

served harmonic distortion levels in excess of 5%. All this during weekly performance checks after sign-off on Monday mornings.

Tuning around the FM band with a real-time spectrum analyzer connected to your receiver detector output can be both illuminating and discouraging. There is one station in the Los Angeles area that seems to have a defective stereo generator that is amplitude-modulating its 19 kHz pilot tone at about 15% with base-band signal. If this is the state of FM broadcasting in the United State's third largest market, I shudder to contemplate the national median. More than once I have heard clearly audible clipping distortion in one or both stereo channels.

There are a few stations that I am aware of that do maintain a high degree of signal fidelity. Unfortunately, they are in no danger of becoming a majority.

I readily grant that the number of FM listeners who are sufficiently demented (or dedicated) to scrutinize their receiver detector base-band spectra in the wee small hours is negligible. The prime motivation for my doing so ranged from suspicion spawned by idle dissatisfaction to outright offense. Although most of the FM audience are not nearly as critical of audio quality as the professional should be expected to be, I believe that there is both fiscal as well as ethical merit to the maintenance of the highest quality audio signal.

The average listener can detect differences in audio quality to a finer degree than he is generally given credit for. In a situation where he is given a choice between high and low quality signals, the man-in-the-street will tend to prefer the better one. The reasons for that preference

may not be as objective or detailed as they would for the skilled professional listener, but they would be substantially the same in their more salient aspects. I cannot believe that the impact of any programming philosophy can fail to be affected by the quality of the program channel that carries it.

Fundamental to the quality of audio program material occurring in the magnetic tape medium are the maintenance and alignment standards to which the equipment is held. These matters as they apply to the open-reel tape recorder/reproducer are central to my subsequent discussion.

The ubiquitous open-reel tape recording machine is a deceptively simple device in operation and appearance. Its simplicity and relative immunity from catastrophic failure tempt neglect. If carefully treated, professional quality tape machines will function for many months, perhaps for years, without incurring total failure. Degraded performance may not be readily apparent in cases where careful performance checks are not frequently made. These performance checks, and accom-

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#### ABOUT THE AUTHOR:

Peter Butt has a military-industrial background in UHF communications, radar, microwaves, nucleonics, instrumentation, and space communications. He has served as an engineer for the Mattel Toy Company with involvement in the talking toy lines, as well as engineer for KFAC radio, and chief engineer of the Tape Duplicating Division of Superscope, Inc., in Los Angeles.

---

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their retaining screws.

In the case of the Revox, the tape guides are fixed so the height of the individual heads will have to be adjusted. The only alternative to this is shimming the tape guides if one should be too low.

The tape should track so that it fully covers the pole-pieces of all three heads in the head assembly. The surfaces of the heads should be adjusted so that they are perpendicular to the plane of the tape deck top plate. If they are not very-nearly perpendicular, and therefore parallel to one another, the tension of the tape as it passes over the heads will be translated

into a transverse component that will cause the tape to skew laterally across the head, deviating from a stable, straight path. It is this sort of behavior that is the cause of dynamic variations of the azimuthal agreement between the tape and the magnetic head gap.

Anything that causes the tape tension to vary will also affect the dynamic azimuth agreement. Such things as sticky brake bands or dirty brake solenoids can cause the same sort of problem. Worn bearings in the impedance idler assembly also cause tracking problems as well as excessive "wow."

If a machine is mounted vertically, there is a possibility that a tape lifter may not retract entirely out of the tape path and thus skew the tape from its optimum position. Again, a visual check will indicate this.

A careful visual inspection of the tape as it passes over all of the heads is instrumental in detecting tape guiding variances that make precise alignment of azimuth impossible.

Worn heads are another cause of skewing problems. As a head wears, it tends to develop a channel in its face. This channel grows narrower with depth, as shown in Figure 2. As the tape passes over this tapered groove, it tends to slide laterally. If the groove is very deep, the edges of the tape will be separated from the pole-pieces of the individual tracks causing a decline in short wave-length sensitivity in addition to skewing.

These wear grooves may be detected very early in their development by running a fingernail over the surface of the heads. Surface variations as small as 0.001 inch may be readily detected in this manner. I tend to adopt the rather conservative view that any head groove that can be felt is too much. Historically, a groove depth of only 0.002 inch has proved troublesome in maintaining azimuth stability in 7.5 ips systems.

Replacement heads having wear-slots cut into them in such a way as to undercut the extreme edges of the tape are now available for Scully machines. They have been standard for Ampex heads for some time now. As far as I know, Revox does not supply heads with the tape path edges undercut.

If undercut heads aren't available, the heads should be removed from the machine, re-lapped, and re-installed at frequent intervals. The expense of this is worth it in terms of the improvement in recording and reproduction quality that cannot be achieved otherwise.

Under-cutting of the magnetic heads won't guarantee trouble-free tape guidance by itself. The tilt, or zenith (remember Fig. 1?) is very important.

Lacking a precise method of zenith adjustment such as a gauge block or optical comparator, a more earthy method may prove fruitful.

First, thread up the machine with some of the tape for which it is to be aligned. Take a felt-tipped marking pen and paint the faces of the magnetic heads. The marking pen should be blue or black in color for maximum contrast with the polished metal of the head face.

I know there are a lot of grease pencil advocates among the multitudes, but I candidly caution against them. The grease pencil leaves a significant thickness of "grunge" on the head that defeats the fine adjustments vital to our purpose.

Run the tape across the heads in play mode for a time, stopping the machine

our enterprise, the alignment of the reproduce portion of the tape machine.

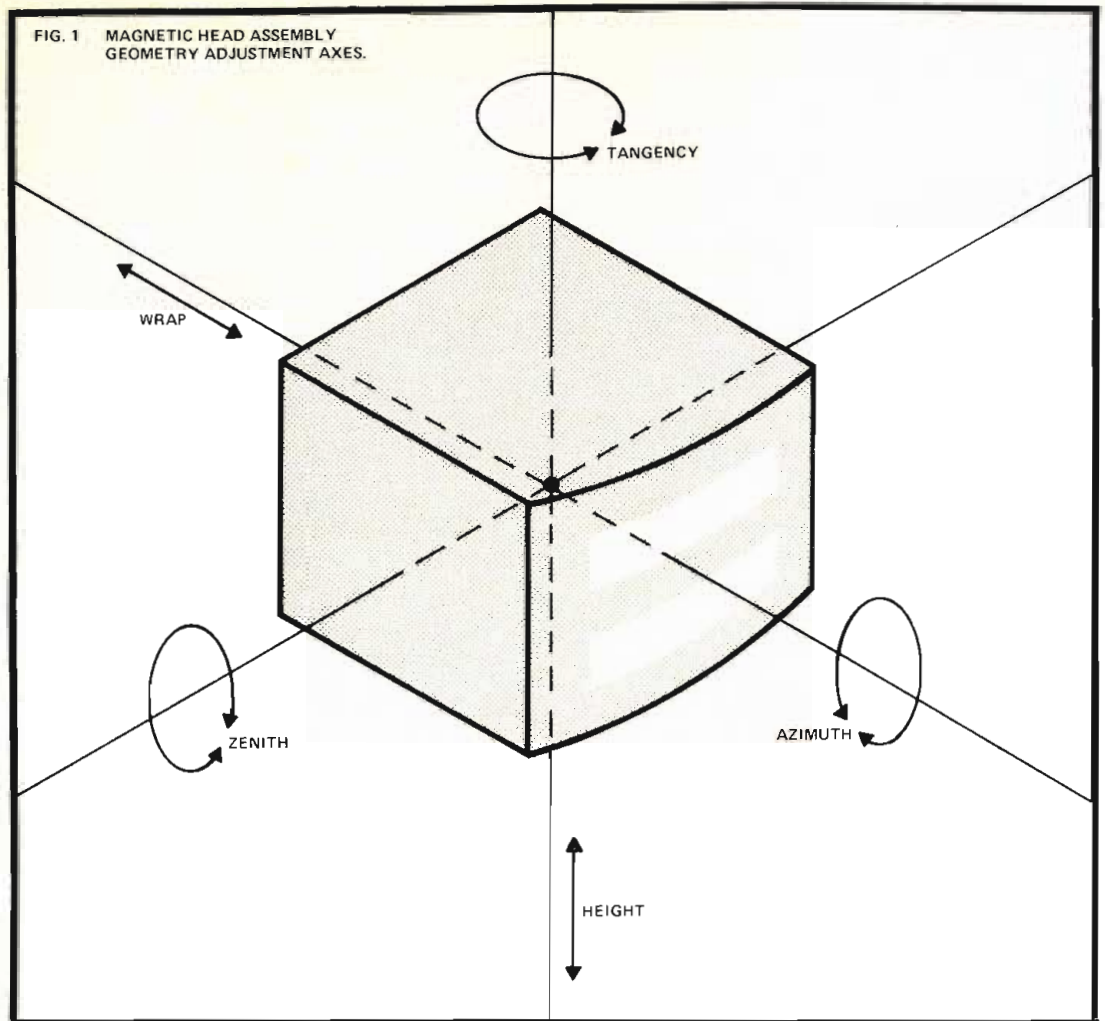
Remove power and tape from the machine. Thoroughly de-gauss all metal parts in the tape path. Even the stainless steel and the aluminum ones. Don't neglect the tape drive capstan.

Clean all surfaces in contact with the tape during normal operation as well as the tape lifters. Run a dry cotton swab across the cleaned surfaces to insure that there is no solvent remaining to lift oxide from the test tape and make matters worse than they were to start with.

Having completed the hygiene portion of our operation, apply power to the machine and thread up the alignment tape. Returning to the subject of alignment tapes, I've found it convenient to arrange test tapes so that they are stored in a tails-out configuration after being played completely through.

The reason for this is that the tape is under considerable stress if it is fast wound onto a reel. If these stresses are allowed to remain for long periods of time, they will result in permanent deformation of the tape. One solution to this problem is to allow the tape to wind onto the take-up reel under normal playing conditions so that the wind is smooth and leaves no tape edges extending outside the wind that may be crushed by the reel flanges during handling.

As for the reels used to contain the test tape during use and storage, they should be inspected before use for sharp edges, burrs or flash that may damage the tape during winding. The tape deck reel turntables should be checked for proper height such that the tape does not contact either reel flange during normal play and record operation. The reel flanges should also be straight so that the tape path is



not disturbed during winding at any speed.

Next, connect the AC voltmeter to the left channel output port. Also, connect the vertical scope input to the left output and the horizontal input to the right channel output.

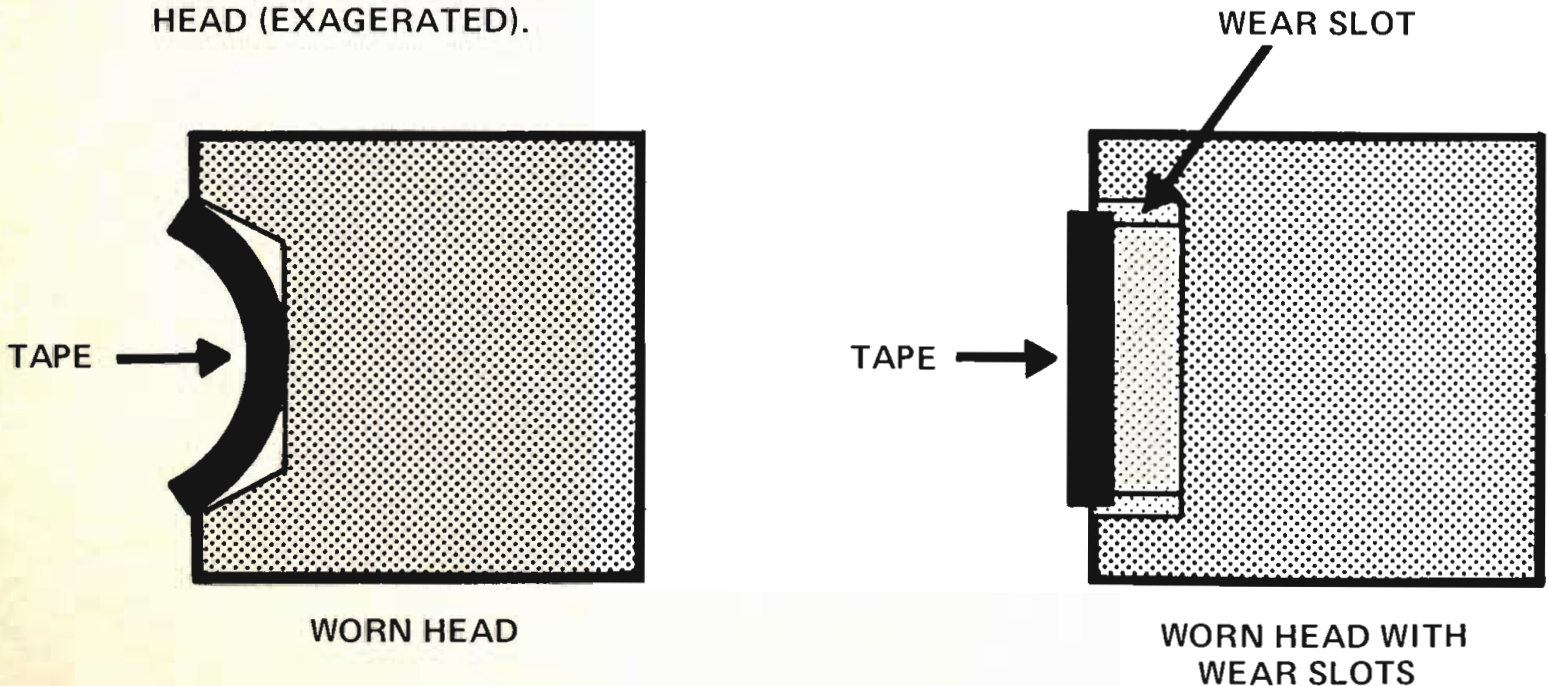
Wind the test tape to its head end and place the machine in play mode. Carefully observe the tape as it passes over the heads, through the capstan and pinch-roller, and across the tape guides. If the

machine is mounted vertically, use the small mirror mentioned earlier to facilitate observation of the head assembly.

There should be no indication of tape motion laterally across the face of the heads. The tape edges should not contact any guiding surface hard enough to cause visible deformation or curling of the tape.

The tape guides of the Scully 280A and the Ampex 440B are adjustable, to some extent, by loosening and re-tightening

FIG. 2 WEAR PROFILE OF A MAGNETIC HEAD (EXAGGERATED).



10 kHz, we had better find and correct the obstacles to meeting that condition.

Let's find a first-class specimen of the tape to be used for recording on our tape machine. Some stretched, worn, spliced stock just won't do. The tape should be fairly representative of what will normally be used or we're wasting our time.

Standard quarter-inch tape is not quarter-inch tape. If you have a fairly accurate micrometer or caliper around, you can measure the tape width by forming a loop with the tape and carefully measuring across the width for the maximum measurement indication. The standard for quarter-inch tape width is 0.248 inches, +0.000, -0.004. If you've got a reasonably good piece of tape stock, you should read something between 0.246 and 0.248 inches.

If there is reason to believe that the tape sample has been stretched, hold a 5 or 6 foot length of it up so that it dangles freely from your fingers. Any deformation will show as a tendency of the tape to curl or hang in a manner other than straight down. If the tape will not pass this test, discard it and try another length.

Let's assume that the tape to be used for record set-up is found to be satisfactory. Thread the tape on the machine and observe the way it tracks across the heads in play mode. It ought to be rock-solid. If it isn't, one thing to check before the onset of panic is the way the tape has been wound on the supply hub. Sometimes tape gets wound a little off-square at the factory and the outer edge of the tape pack will vary in height above the deck plate as the supply hub rotates. If this is the case, the skewing of the tape at the head assembly will show some sort of time correlation with the rotation of the supply hub. The same sort of thing will happen if one of the reel flanges is bent and the tape is disturbed by it as it winds on or off the reels. Without stable tape handling ability we are lost.

If the tape pack is skewed on the

supply hub, either find one that isn't or let the tape wind uniformly onto the take-up reel at high playing speed. The tolerances we are working to here just will not permit much error if we are to meet our goal of good mono compatibility at a 7.5 ips tape speed.

Now we're ready to carry on with the final phase of our project. For this machine, anyway.

Connect the sine-wave oscillator output to the tape machine left and right line inputs simultaneously. If it's necessary for optimum oscillator frequency response, see that its output is terminated in the proper load resistance. Although all oscillators are supposed to be stable in output frequency and level, some aren't and it may be wise to check to see that it is with the AC voltmeter.

Put the tape machine in record mode and set the machine monitor switches to indicate playback signal at the output ports. The scope and AC voltmeter should still be connected to the machine outputs.

Feed a test signal into the machine from the oscillator. Adjust the oscillator output for about 1.23 Vrms and the record gain controls for about zero V-U at the machine output. The output level should be close to the standard operating level indication noted from the test tape playback. In the case of the Ampex or Scully machines, set the oscillator for 500Hz. At 15 ips speed we'll set it for 1 kHz. The idea is to record a 1 to 1½ mil wavelength on the tape for biasing purposes.

Back off of the bias level controls until minimum bias level is reached. While monitoring the track 1 output level, gradually increase the record bias drive until the absolute peak of playback level is reached as indicated on the AC voltmeter. If the repro level increases beyond +3 dB over reference, re-adjust the record level control until it's back around zero. When the peak is reached, switch the tape machine meter switch to the bias current

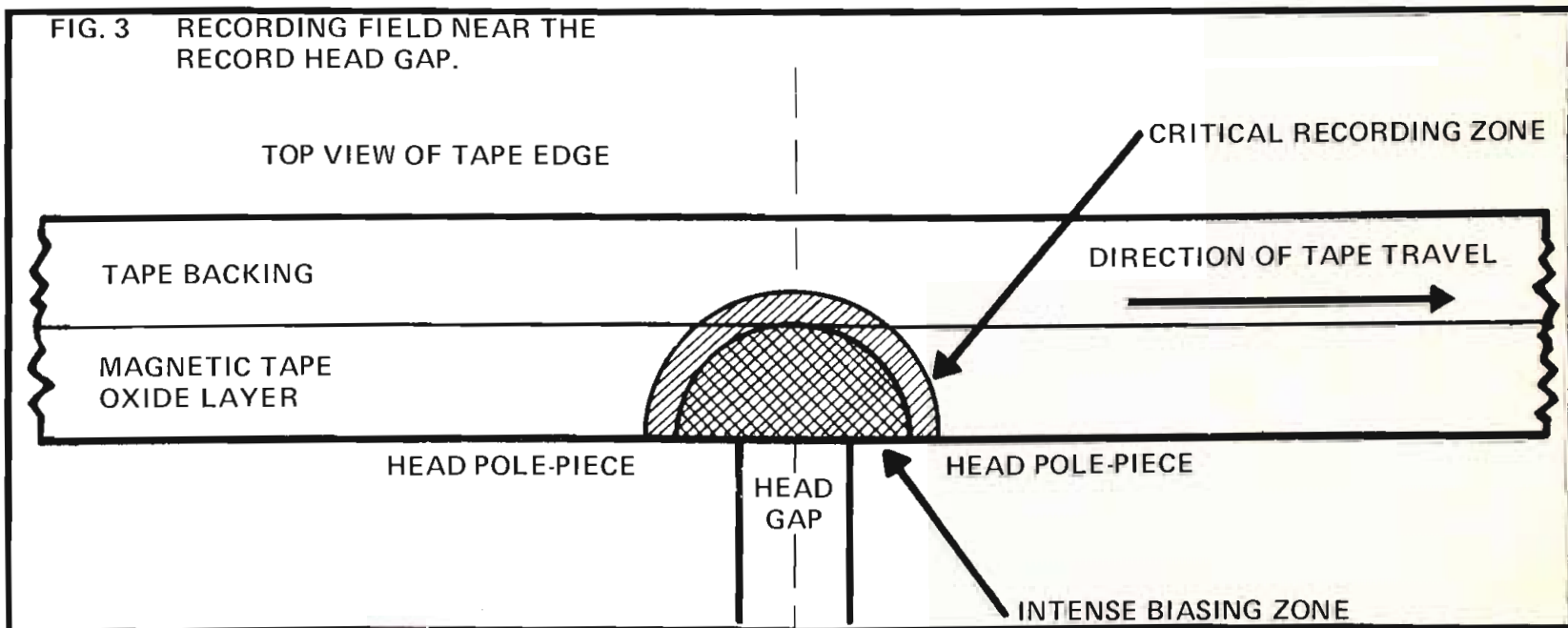
position and adjust the bias calibrate control until the VU meter reads -1. Now adjust the bias level control for a bias current reading of zero on the machine VU meter. What this does for us is guarantee that we are in a slightly over-biased condition at approximately a 1 mil wavelength. Further, we have determined the amount of over-bias to be 1 dB over peak sensitivity using the machine VU meter.

If we repeat this process for the remaining channel, we will have set both record channels for very nearly the same relative bias condition. If experience serves as an indication, the reader response to this little feat of technical terpsichore will range from an apathetical "So what?" to clichés less fitting of mixed company.

The reason for all this technical fooling-around is that the geometric point at which the signal gets recorded on the tape is not solely determined by the geometrical position of the record head gap.<sup>4</sup> The recording process occurs at a point after the trailing edge of the record head gap where the bias field intensity drops below the point corresponding to the lower knee of the B-H curve describing tape oxide hysteresis characteristic. The higher the bias field, the farther this critical distance, shown in Figure 3, will be from the record gap. If the bias fields of the record gaps of a multi-track head are not very close to the same value, the critical recording zones will differ in their location with respect to one another. The recording zones will not line up with each other and there will be a net phase-shift that will get worse as the signal frequency increases.

As an illustration of the credibility of this thesis, try varying the bias level of one of the tracks while observing the oscilloscope phase pattern. Note that the pattern shifts as the bias level is changed. It's a lot worse at high frequencies.

This sort of approach to biasing should be applicable to the Revox A77 as well as the Ampex 440B/C and the Scully 280A. I haven't tried it on a Revox, so I can't



periodically to see if a wear pattern has developed on the inked portion of the heads. If the zenith is correct, a rectangular pattern will be visible. If the pattern is trapezoidal in shape, the zenith is incorrect. Adjustment and subsequent re-inking for wear-pattern verification is in order. As the zenith is adjusted, see that the head height does not change enough to affect tracking. While we're about it, the head gap should be very close to the center of the wear pattern. That takes care of the zenith and tangency adjustments of Figure 1.

Okay, I've dwelt on the mechanics of that subject long enough. The importance of tape tracking to azimuth stability cannot be over emphasized. At 7.5 ips, a 10 kHz wavelength is only 0.75 mils long. Inspection of a tabulation of the cosine function reveals that the cosine of 45 degrees equals half the square-root of two, or 0.707. Therefore, addition of two sine waves having 45 degrees of error between them will result in a level 3 dB lower than if there were no phase-angle difference between them. Applying a little elementary trigonometry to the problem reveals that an azimuth disagreement of only two minutes and four seconds is enough to cause this much phase disagreement. That's only about 0.0344 degrees.

Presuming an unsupported length of tape of about four inches, a lateral drift of only 0.0024 inches from one end of that length to another will also be enough to cause that kind of phase error.

It should be realized that this loss of response occurs almost entirely as the result of the vector addition of components having a 45 degree phase difference between them. The level loss due purely to simple azimuth error amounts to only about 0.078 dB.<sup>1</sup>

This is why the phase, as indicated on the oscilloscope, is a more significant and reliable indicator of azimuth error than simple peak reproducer response at a short recorded wavelength.

In detail, the procedure for reliably adjusting azimuth to very tight tolerances is to adjust for closure of the elliptical pattern displayed on the oscilloscope at a relatively long recorded wavelength. About 700 or 1000 Hz at 7.5 ips will do. Then the pattern is observed as the 15 kHz equalization tone is played and the azimuth is adjusted for minimum phase error at that wavelength.

While at this frequency, the reproducer response for both left and right channels should be adjusted for equal output and the scope pattern re-checked for minimum error. The high-frequency boost in the reproduce electronics will cause an electrical phase shift that is not due to geometrical effects if the relative response characteristics of both channels aren't very close to being the same.

If one of the repro head pole pieces is dirty or worn causing separation of the

tape from that gap, the difference in HF boost needed to make up for the spacing loss can induce enough electrical phase-shift to result in geometrical misadjustment of the head. This is an extremely important aspect of routine tape machine alignment that I don't think has been as widely recognized in the broadcast industry as it should be. For that matter, if it weren't for the higher tape speeds predominantly used in the recording industry, mono compatibility would be a much greater problem than it presently is at the recording studio level.

As a check, the test tape should be rolled back to the -10 dB reference frequency to see that things are still under control at that end of the spectrum and to verify that the fine azimuth adjustment at 15 kHz didn't pass entirely through 180 degrees to 360 degrees phase error. It's not hard to over-adjust by that amount so the extra time it takes is well worth while.

This last time, we'll roll through all of the spot frequency tones on the tape, making whatever reproducer response adjustments may be necessary to keep the output flat to within  $\pm 1$  dB. The scope pattern should be noted throughout to see that there are no phase flips at any of the spot frequencies.

If your machines are equipped with built-in V-U meters, you may be tempted to dispense with the external AC voltmeter. Before doing so, I would suggest that the readings of the machine V-U's be compared with those of the external meter. You may find that there is some disagreement between them at the high frequencies. If this is the case, the external electronic voltmeter should be relied upon. It is not unusual to observe a 2 dB drop in VU meter response at 15 or 20 kHz. Make sure your machine meters are indeed flat before dispensing with the electronics AC voltmeter.

For anyone requiring a refresher lesson in the use of the X-Y oscilloscope as a phase indicator, bibliographical reference two is given.

Proceeding down the spot frequencies, no difficulty should be encountered until about 250 Hz, using a full-track alignment tape. From there on down, a full-track tape will show an increase in reproduce level over what it should be for reproduction of a 75 mil recorded track.<sup>3</sup> This phenomenon is called "fringing" and is due to the reproduce head gap and pole-piece intercepting some of the magnetic field from beyond the edge of the reproducing track width at long wavelengths.

Table 1 shows the theoretical values for the fringing response of a 0.075 inch reproduce head reproducing a full-track tape at the respective frequencies indicated.

For the case of the Scully 280A machines, there isn't anything to be done as far as low-frequency reproduce response is concerned. That will take a load off the

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mind of a lot of Scully users. The Ampex 440B/C and Revox A77 does have a LF response adjustment, however, and the tabulation should prove helpful in setting the reproducer response. If you've never performed an adjustment of the reproducer LF response, re-check carefully to be sure you're right.

Table 1

Frequency (Hz) at 7.5 ips.	Excess Response due to Fringing (dB) <sup>3</sup>
500	+0.5
250	+1.0
100	+1.9
50	+3.0
30	+4.1

As the operating level reference portion of the test tape plays through, adjust your tape machine reproduce output level controls to yield +4 dBm or 1.23 Volts rms as indicated by your AC voltmeter. This output level should correspond to zero VU on the tape machine output meters.

Now we're ready to take up the matter of the alignment of the record section of the tape machine. We assume that if we successfully made it through the reproduce section alignment, especially the azimuth and dynamic skew part, that the deck is in sufficiently good mechanical condition to merit completing the job. If the deck could not maintain a phase agreement between channels of  $\pm 45$  degrees or less at

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# Programming Research in Television

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by JERRY JACOBIOUS

A Look at Marketing Research in Television Programming Decisions, through Methods Currently In Use by the National Broadcasting Company, Burbank.

JERRY JACOBIOUS has worked as a production assistant for several television production companies. He has been involved in the development of syndicated radio programming, as well as supervised guest relations operations at Metro-media's west coast t.v. flagship, KTTV. Jerry is currently a programming research consultant for NBC in Burbank, where he moderates research groups, arranges and organizes group scheduling and operations. He has a Bachelors Degree and a teaching credential in Psychology, a subject in which Jerry has served as a high school teacher.

What is "Programming Research"? Richard Lindheim, an NBC vice president in charge of research likes to use this simple analogy . . .

"When a furniture manufacturer is producing chairs, he has direct information as to how successful he is. Either he is selling many chairs and turning a good profit, or customers aren't buying his chairs, leaving him with an overstocked warehouse and a monetary loss. Salesmen can hear the comments and attitudes of the customers through face-to-face contact. It is direct *success* information from customer feedback.

"But television has no direct form of feedback. It is a one-way communication process. There is no way to straightforwardly measure what is happening with the television *customer*, or audience. There is a difference, too, between the chair customer and the television customer . . . in that people watch television whether they admit it or not. A recent survey has indicated that a television set in the average American home is turned on almost seven hours daily. But it is not like selling a chair, because the product is *already sold* . . . the customer is already watching television.

"The available television ratings provide a *body count* as to how many people tuned in to a particular program, as well as a multitude of characteristics regarding those viewers, but the rating definition says nothing about whether the people watching really *like* what they're watching." A high rating may simply be the result of the viewers tuning in what they consider to be "the lesser of many evils" in the program selection. So, in addition to body counts, television (as well as radio) programmers should consider another segment of programming information . . . *programming research* . . . which deals with going directly to the viewer himself, and asking his *attitudes* regarding what he watches. Such information is an effective element in helping station management reach better programming decisions.

Using statistical tools, research hopes to answer the questions as to what the audience wants in programming, and how the programmer can effectively fill the needs. *What elements can be put in programs so the public will choose it over the competition? How can the programmer avoid the monetary and prestigious image losses as a result of scheduling programs that don't appeal to the audience? How can programming be improved upon? What are the viewers' attitudes?*

Needless to say, marketing research is a very complex science to which many

people devote their entire careers. Precisely, the word *research* refers to scientific methods and statistical procedures to collect and analyze data. Realistically, it is impossible for this one short article to explain research theory and convey the necessary information to begin a programming research project, but the purpose of this article is to at least introduce the general idea of programming research for everyday use to the local programmer, and to briefly introduce these ideas by describing the techniques currently in use at NBC. Since sampling and response errors are inherent in marketing research, if a local programmer wishes to initiate a research program of large or small size, it is suggested that a qualified marketing research service be consulted to insure that the research is properly carried out.

NBC's Program Research department has an extensive testing program, and utilizes more techniques than do the other two television networks. We will take a basic look at the NBC procedures, and a closer view of one method that can easily be initiated on a local programming level.

Generally, research information is obtained in two forms . . . *qualitative* (what kinds of attitudes), and *quantitative* (what percent of the population or population segments that point of view represents). NBC utilizes four basic research methods, each of which provides something different.

The first method employed is the *group (panel) discussion*. NBC hires services which recruit people to come to the studio for a viewing, or to read new program concepts explained on paper. The groups are fast, inexpensive, and simple to conduct, and provide qualitative attitudinal information about the various t.v. projects, but little or no statistical information. However, the groups give a general feeling for the project before more extensive and expensive research takes place, or production begins. Almost all projects at NBC are initially tested with the group discussion method.

Sunset Boulevard is the home of Audience Studies Institute, known to the public as the *Preview House*. Almost every evening, ASI recruits a cross section of the public to their 450-seat theater to view new television pilots as well as commercials. NBC uses ASI to test film projects, and in this situation, respondents in the audience turn dials which indicate their feelings (strongly like, like, no reaction, dislike, strongly dislike) from moment to moment while the film is being shown. It is a laboratory, controlled environment which allows for the



actually be sure. The prime drawback is the lack of a convenient means of reading the Revox record bias current. The Revox manual describes a method of biasing at 10 kHz at a -20 dB level. I would be inclined to do a rough biasing procedure at 500 Hz reference level, adjusting for simple peak sensitivity at that frequency. Using the phase scope as an indicator, the record head azimuth would then be adjusted for zero phase error at the reproduce head as preliminary to the high-frequency over-biasing method at 10 kHz, -20 dB. Revox doesn't suggest use of a phase scope for azimuth adjustment. They are not unique among tape machine manufacturers in this respect.

Okay. We've set our bias levels for our two tracks to be the same relative value with respect to the tape oxide B-H characteristic. We've set the azimuth for zero channel phase error against the reproduce head azimuth. Now, let's drop our record input level by -15 or -20 dB and follow the 500 Hz reference signal with the phase scope and AC voltmeter. Let's not mess with the playback gain pots as we painfully set those during the repro section alignment.

Set the oscillator frequency to 10 kHz and adjust the 7.5 ips record equalization controls to yield flat response with respect to the 500 Hz reference frequency at reduced record level. Adjusting the phase scope controls for a readable deflection, make a final touch-up adjustment of the record head azimuth for minimum phase error at 10 kHz.

As a final check, sweep the oscillator across the audio band at this reduced level and observe that the net record/reproduce response does not vary more than  $\pm 1$  dB from the 500 Hz reference and the net phase error remains less than 90 degrees for frequencies below 15 kHz.

We're almost through, gang. The only thing left to do is set the oscillator back to 1.23 Vrms and adjust the record level controls to yield 1.23 Vrms as indicated by the external AC voltmeter. The output level indicated by the tape machine VU meters should be zero VU in the playback mode. If it isn't that the error may be nulled out by changing the value of the

meter multiplier resistor so that the VU agrees with the external meter indication.

Setting the meter switch to the record position, adjust the record calibration control to yield the same VU meter indication as was noted in the playback position for each channel.

The Revox works just a little bit different as far as record meter calibration is concerned. The method is to feed a constant line-level signal into the record line inputs and adjust the meters for 0 VU while the monitor switch is in the input position. After this is done, the monitor switch is set to NAB and the record cal controls are adjusted for a reproduce output of 1.23 Vrms.

That's about it, folks. All the preceding was predicated upon the assumption that the tape machine was in reasonably good mechanical and electronic condition to begin with. If the heads are worn, motor bearings out of round, tape guiding mis-aligned and/or grooved, tape drive capstan out of square, or any number of other things are not quite right, we will not have had a successful event.

I am fully cognizant of the fact, as indicated by the jeers and derision received from subordinates and peers alike, that this seems like a whole lot of trouble to go to just to make your mono sound fairly presentable. The fact is that the tape medium just won't perform to its full potential without this kind of careful alignment performed at least daily. For the case of broadcast automation situations, this same reproduce procedure should be done as each new program reel is loaded on a given machine. It is hard to convey the fact that everything matters if highest fidelity is to be realized on a daily basis.

I don't know what to tell you fellows who have a 45 dB signal-to-noise ratio or whose pilot tone side-bands are reaching down into your base-band and up into your sub-carrier spectrum. I just hope that the possibility of your faults being discovered by the knowledgeable will provide some motivation to clean up the act as well as the signal.

Those persons responsible for -70 dB noise floors and truly CW pilot tones have earned my respect and appreciation. May your numbers increase. **END**

#### BIBLIOGRAPHY

- 1C. Lowman "Magnetic Recording" — p. 80, McGraw-Hill, 1972.
- 2S. Seely — "Electron Tube Circuits" pp 48 1, 2, McGraw-Hill, 1950.
- 3J. McKnight — "The Fringing Response of Magnetic Reproducers at Long Wave-lengths" JAES. Vol. 20 No. 2, (March 1972), P. 100.
- 4M. Camras — "An X-Field Micro-Gap Head for High-Density Magnetic Recording" IEEE Trans, Broadcasts Telev. Receivers, Vol. BTR-10, p.93 (May, 1964).

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### CX822 Mastering Recorder

computer logic control for safe, rapid tape handling and editing ■ full remote control optional ■ Trac-Sync available ■ each channel has two mixing inputs and individual bias adjust and equalizers ■ third-head monitor for meters or headphones with A/B switch



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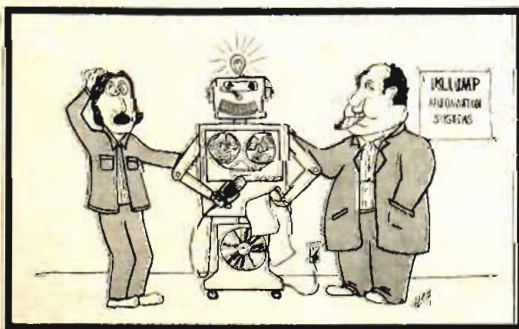
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troops are going to be slaughtered up front,' and they would cut *his* head off for saying the bad news. It's not the research guy's fault the audience didn't like the show, but somehow you want to hold him responsible. I guess it's just a human reaction!"

Compared to the other methods of program testing, the *research group* is the most feasible method for a local programmer to employ. First of all, the research group is practical, and can usually be carried out within the facilities of a television station. Secondly, running a group operation is a relatively inexpensive (a fraction of the cost of ASI or cable testing) way of obtaining qualitative information rather quickly. However, compared to the other methods, the total number of respondents interviewed will be generally much smaller, and that must be taken into consideration when selecting the sample and interpreting the results.

Now let's take a closer look at the ideas behind group discussion research, based on how such groups operate at NBC.

A research group is another name for a panel discussion led by a moderator, and just about any programming concept, whether on film, tape, or paper, may be the subject of group discussion. Pilots made by the station, or acquired from an outside source might be tested to see if group members would be likely to watch if the program were to come on the air in their city. A programmer might want to test a particular episode of a continuing series for a reason such as getting reaction to questionable program content. A group of concepts (program ideas on paper, written to attract interest) can also be tested before a pilot or pre-production for a show even begins, to find out what segments of the idea are worth pursuing.

The discussion should be held in some type of a room suitable for comfortably holding a conference. This room can also double as a screening room where the program in question can be viewed, depending, of course, on the local facilities available. Other factors to take into consideration are the forms in which the shows to be tested are available (closed-circuit playback, video cassette, film projection, etc.).

NBC generally utilizes a separate screening room, and after viewing, the respondents are comfortably seated at a rectangular or round conference table with the moderator at the head to establish a discussion environment. A couple of microphones are placed on the table to allow the discussion to be recorded, the purpose being to re-listen at a later time in preparing a written summary report, or to include tapes in a presentation to programming decision makers. The respondents do not usually mind the presence of the microphones as they know they are there to give their opinions and take part in a discussion, and having

the tapes available make it possible for the moderator to conclude other things besides his initial impressions.

Where do the respondents who take part in the discussion come from? They are "recruited" in various ways, either over the telephone or in public places such as shopping centers, or through the mail via a card or letter inviting them to the studio. What's in it for them? Sometimes seeing a "preview" of a show before it goes on the air, or having their opinions heard regarding new television shows is enough. They can also be given a tour of the station facilities, t.v. show tickets, or be invited to be an in-studio observer of a broadcast.

The optimum size of the discussion group is one comprised of about fifteen respondents. This number is sufficient to acquire a variety of opinions without the group being so large that it becomes unmanageable. As much as possible, the group should be a microcosm of the community, including men and women of various backgrounds with the ages spread evenly from late teens through senior citizens. There might be groups where a certain type of demographic make-up unlike a "random" sample mentioned above would be useful. For instance, when testing a children's show, the group should be composed of only young people. To improve an existing show, regular viewers of that show should constitute the group.

When the respondents are brought into the conference room where the discussion is held, it is useful to have each person fill out a brief questionnaire, asking the respondent's sex, age range, education, occupation, income range, and television viewing habits in case it is desired to correlate the attitudes to population characteristic trends. Also, serving refreshments, such as coffee and doughnuts helps make the atmosphere more relaxed and the discussion easier to get into.

The moderator is an important element of the research group, for he or she represents the station to the respondents. Appearance and personality make initial impressions, and NBC tends to employ moderators with backgrounds in psychology. There is a technique in being a non-involved leader as in some methods of group therapy. Since the discussion is held at the station and respondents are made to feel welcome, some group members tend to be too positive in their comments. They often tell you what they think you want to hear. For this reason, before the discussion begins, the group should be given an orientation, telling them that the best way they can help is to come forward with their true feelings, even if they are negative.

"Why?" is the question that is probably asked most often from the moderator. "Why?" tends to get at the reasons behind certain feelings and blanket statements made by respondents ("I didn't

administration of difficult questionnaire materials. But one problem is that testing in a theater is not quite like the real television-viewing world. Television shows are viewed on a large motion picture screen, and the viewers are members of a large audience. Therefore, it is not a natural television-viewing environment.

NBC has rectified this problem through being the only network to use an additional method: *cable testing* of pilots. Cable television subscribers in various cities are notified in advance of a preview of a new show on an unused channel via a large post card sent in the mail. The recipient of the card is asked to place it on top of the t.v. set for easy reference, and at the conclusion of the program, cable customers are called and interviewed by telephone.

It is easy to see why results from cable tests are efficient predictors. The program is seen in the homes of many people under normal viewing circumstances, however, administering cable tests can be complicated and expensive. It is necessary to have available several phone lines and adequate personnel to make the calls, and another drawback is that the length of time that can be devoted to the post-

program interview is limited.

The fourth method employed by NBC is a national survey. Carried out almost weekly, they are *face-to-face interviews* conducted in the home, the subject of which varies between existing shows, new program concepts, or attitudes toward television is general.

According to Richard Lindheim, cable results do not vary as much as one would expect. The differences that appear reflect themselves in specific kinds of shows. "Television is the last great mass medium in this country," says Lindheim, "so it appeals to audiences in all areas. Television has not yet become fractionated like magazines or radio with its various formats."

To what use does NBC put the research information it gathers, and how heavily is it weighted? Bruce Belland, Director of Daytime Development of NBC says that research is one additional source of input information, and there is no steadfast rule about the role research results play in the decision-making process. Research works along with experience, instincts, intuition, and creative insight. "In some instances it plays very heavily, particularly if it is something we hadn't thought about,"



Programming research takes place at NBC in Burbank through a discussion group. NBC averages two such groups per day, and covers a wide variety of programming ideas, from actual screening of pilots to primary concepts on paper.

states Belland. "If the majority of the viewers come back and say they did or did not like a certain element contrary to what we felt about it, we'll re-evaluate it. There are times when despite what the research may say about a show not having much chance for success, something in your gut says, 'we believe in this show . . . we think it can work . . . we're going to put it on anyhow.' There are times when you have a sneaking suspicion the show isn't going to work, and research confirms that and you say your feelings were suggesting that was the case, so you listen to the reinforcing research and don't put the show on. There are times when you feel the thing is going to be a hit. It's an exciting concept and research comes back and says you've got a hit. That is the happiest circumstance that can happen."

Belland feels that what happens before the research is done on the daytime shows he is involved with, is just as important as what happens after. "We will sit with the research department before a particular pilot is shown to viewers and researched. We'll tell them what information we'd like to find out in their reactions. For example, in the instance of a daytime game show . . . do they like the host? Do they like the game itself? Do they like the set? Would they watch this show in preference to their current favorite daytime show that's on the air? What time of day would they like to see this show? Do they think it is a viable concept for a daytime program? So we tell them what areas we'd like to have feedback on, thus giving the research direction and purpose. The research department supplements our information needs with what they think is significant and relevant, then they'll come back and tell us what their findings were."

Belland relates a humorous side to the research results . . . "I always feel sorry for the guys from research who have to tell you the news, especially if it's bad. I'm reminded of the old fable about the guy that used to bear bad news. He'd come back to the general and say, 'the

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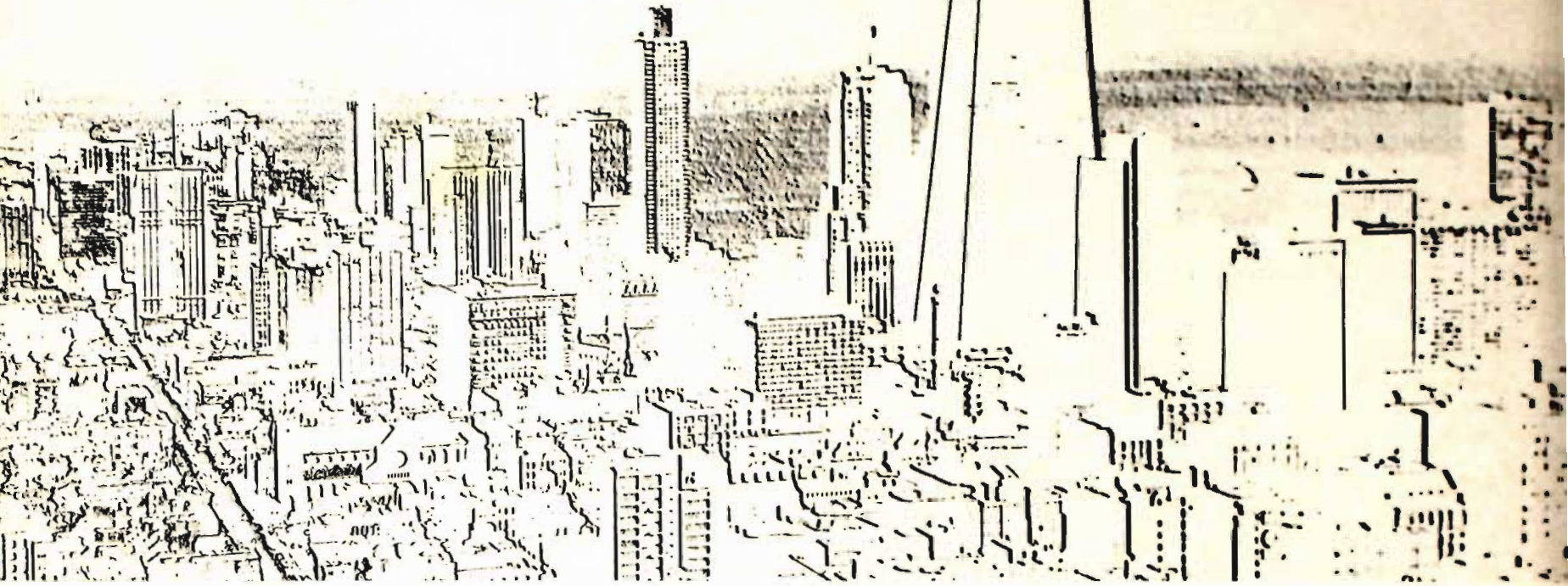
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# Windy City Radio

A PROFILE OF SUCCESSFUL  
RADIO PROGRAMMING  
IN CHICAGO

BY GARY KLEINMAN



Chicago is a highly competitive radio market offering a broad assortment of programming formats. The following is a close look at seven of Chicago's top radio stations, and how they are carving successful programming niches in competing for the radio audience. . . based on interviews with the management of WGN (MOR/Variety), WLAK-FM (Beautiful Music), WLS (Mass Appeal Contemporary), WBBM (All News), WDFH-FM (Top 40 Rock), WMAQ (Mass Appeal Country Music), and WIND (Adult Contemporary).

**WGN** 720 kHz; 50,000 watt, clear channel.  
Format: MOR/Variety  
Based on an interview with Program Manager, Dick Jones.

WGN is programming a vast variety of shows . . . everything from popular music, to talk, sports, farm, and opera. The philosophy behind the programming is that the station is a service, to serve the needs of the adult listening audience in Chicagoland. Dick Jones, Program Manager of WGN says, "We program for adults, basically 25-35 on up. WGN, I think, has to broadcast quality programming for people who are concerned with what's happening in the world today. It's not just entertainment . . . it's a service.

"Many people ask us if we have a for-

## THE CHICAGO MARKET

Population Rank . . . . .	3
Population:	
City of Chicago . . . . .	3,384,209
8-County Area . . . . .	7,795,338
Radio Stations . . . . .	AM 17; FM 21
Television Stations . . . . .	9
Television Households . . . . .	1,788,860 (96%)
Effective Buying Income:	
8-County Area, Avg.	
Household . . . . .	\$15,381
Per Capita . . . . .	\$5,074
Consumer Spendable Income . . . . .	\$32,278,409,000

mat or a playlist . . . and we don't really have either. But as far as music is concerned, we are MOR. However, we do play recordings that are on the Top 40 when they are applicable. Our personalities have complete rein to play *anything* they want to, from classical to rock, as long as it is in good taste . . . and with a purpose. We discourage the playing of acid rock and hard soul, which is not in keeping with our audience."

The WGN audience seems to be made up of loyal, long established, devoted listeners. "Our audience considers WGN to be 'their' station, they listen because we offer stability, reliability and believability, therefore, we program what we feel is our obligation to the audience. I've got to admit, though, that we're concerned about the fact that our listeners are mainly the older people, and as they're getting older, the younger people have to make up the audience. To solve this problem, we are slowly weaving in the contemporary, acceptable music of today. Eventually, as the young person grows into responsibility and gets out into the world to make a living, he will want to rely on a station which offers more believability, stability and service, along with entertainment, without being terribly old-fashioned. I think WGN has this to offer."

WGN places heavy emphasis on the concept of personality. "We build and

publicize our personalities. People identify with personality, and that's where the secret of success is. If you don't have that, you might as well just keep pushing buttons and playing music.

"All of our personalities are believable . . . they communicate on a one-to-one basis in talking to the audience, and have a wide involvement in our community affairs. The cardinal rule around here, regarding our personalities, is that you don't go into the studio unprepared . . . everybody knows he must do his homework. There must be a *reason* for him to be on the air.

"Wally Phillips, who is on from 5:30

## CHICAGO TOP STATIONS

MEN 18+	WOMEN 18+	TEENS 12-17
1. WGN	1. WGN	1. WLS
2. WBBM	2. WBBM	2. WCFL
3. WLS	3. WLS	3. WDFH
4. WCFL	4. WLAK	4. WBMX
WLAK	WVON	5. WDAI
5. WIND	5. WAIT	WFYR
6. WJJD	WCFL	WJPC
WMAQ	WIND	6. WJOI
WVON	WLOO	WVON
7. WDAI	WMAQ	

Formats of other stations listed above:

WAIT: Beautiful Music; WBMX: R&B; WCFL: Top 40; WDAI-FM: Rock; WFYR: Nostalgia Rock; WJJD: Country; WJOI-FM: MOR; WJPC: Soul, WLOO: Beautiful Music; WVON: Black.

Station rankings derived from "Shares of Audience" figures from latest PULSE survey available at press time (Jan/Feb '75).

like that character," "The show was boring," "It was terrific," etc.). The important information comes from *why* they felt that way. The moderator must probe into the answers without losing his or her neutrality. This can mean answering a question with a question, or simply saying "I don't know," if asked a question by respondents. It is important to remember, however, that in asking any question, the purpose of the question should be known. You should be able to define the problems whose answers you want to know, and if the problems are not defined, then the research process can be an aimless effort. It is additionally important that the questions being asked are clear, so the respondent understands the questions the way they were intended to be understood.

To illustrate the exchange of information that takes place in a group session, the following are just a few examples of typical questions that might be asked of the participants:

- What are your overall reactions to the show?
  - What did you like best? Why?
  - What did you like worst? Why?
  - Do you like the idea for a series? If yes, why? If no, why not?
  - How often should it be on the air?
  - What do you think of each continuing character? (note: "character," not "actor.")
  - Why do you feel that way? Why do you like him or dislike him?
  - How would you change the show?
  - Does it remind you of any other shows on the air? How is it similar or different? Is that good or bad? Why?
  - What is more important, the guest or the host?(In a variety show)
- If the show is already on the air:
- How many people watch this show, and why?
  - How do you determine whether or not you will watch this show?
  - What do you feel about the time this show is scheduled on the air?

To generate discussion if you need more reactions:

- Can you use one or two words to describe the show?
- When you go home today and your friends ask what kind of show you saw, what will you tell them?
- (going around the table) What does each person feel was the worst or best part of the program? Why?

These questions, of course, are just a brief example of what might be asked, and there will be specific questions for certain shows or concepts, depending on the information needs. Written copies of program concepts are often passed out to group members, and in doing so, four or five concepts can be discussed in one group. An hour is as long as the group should comfortably last, and is usually

ended with the question, "How many would watch this show if it were to come on the air?" The moderator must remember that the tape recorder cannot see when people react, nod, or raise their hands, so in general, the respondents should be made to verbalize, and when taking a count, the moderator must count out loud.

After the NBC group panels have concluded the discussion, the results are summarized and written up in a report by the moderator. This short report is made available (along with the tape) to programming management, and often to the producers of the show. More than one group discussion might be necessary, but after two groups, the information tends to repeat itself.

Bruce Belland warns against group members who pontificate. "You sit them around the conference table and they think that they are somebody special now. They are going to pass their words of wisdom down from the mountain top." This, of course, is only one of the many problems one encounters in dealing with marketing research, and such "errors" can lead to inaccuracy in the research results.

Lindheim feels research results are a useful tool, but stresses that the value of the information lies in how it is used. The research department provides the information, and the programmers and producers use it. He points out that the success of a show includes other factors research can never take into account. How a program performs on the air is a result of its lead-in, competition, and even day or time of programming.

Again, programmers shouldn't judge solely on research, but should use it as a tool. The findings should be combined with or used as an additional source of information input for decision making. Other factors that come into play will be the programmers' personal feelings, the station's scheduling needs and availabilities, costs, sponsor interest, and intuition.

What does the future hold for program testing? Bruce Belland states that even though the other two networks do not yet utilize cable testing, they can see it as an effective way to test because it presents the program in the most natural setting, and reaches more people for a larger and theoretically better sample.

"We don't totally understand the television audience yet," declares Richard Lindheim. "Future development will be in the direction of concepts in terms of learning more about what kinds of programs people want. We know there are too many investigative programs on the air, but it is hard to find what people would like to see in place of them. *What would they like?* Rather than finding out after the fact there are too many cop shows on the air, the future of research is being able to anticipate and develop concepts people are interested in." **END**

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(L to R) 1) WGN's Program Manager, Dick Jones, started his career at WGN in 1956 as a writer/producer/director. He has held the position of Program Manager for the last four years.

2) A view of one of WGN's eye-appealing air studios. Studio pictured above is used for "Extension 720" talk program. 3) WGN's own heliport which accommodates two "Trafficop-

ports" for daily on-the-scene traffic condition reports. 4) WGN newspaper ad pointing out the loyalty of the station's audience. Advertising campaign includes print, t.v., and billboards.

Edith Garney turns on WGN as soon as she wakes up. She hasn't missed a morning in 14 years. Chicago knows a good thing when it hears it.

55

one person . . . a threefold job, and it requires a lot of imagination. Our producers will handle the coordination, booking, and production of the show, as well as working up the ideas, gimmicks, writing, and working very closely with the talent."

"On Sunday we program a 'Sunrise Concert,' (5:30 to 7:00 a.m.) which is strictly classical. At 7:00 to 9:00 a.m. we present 'Sunday Morning in Chicago,' a fully scripted religious music show which features music from rock to Bach, interlaced with inspirational readings. Incidentally, this program has the highest rating in this particular time slot. Other weekend shows include standard music shows, Cubs baseball and Bears football, when in season; sports talk-shows, old-time radio, community affairs, outdoors and leisure, a bowling show, world finances and stock market, and a Spanish community affairs report.

"Our programming has evolved and developed over the years. Naturally, our schedule changes for our baseball and football coverage. In the fall, when football goes off, we schedule the Metropolitan Opera on Saturday afternoons . . . a live cultural vehicle which serves the serious music lover."

Mr. Jones says that WGN does not use any I.D. jingles on the air. "I think I.D. jingles are a hinderance. If you have a good thing going, the repetition of I.D. jingles serves only to annoy the listener. If you've got any kind of a listening audience at all, they know what station they're listening to. Our call letters are used on the hour and half-hour . . . where they're appropriate, without driving them into the ground."

Much of the success at WGN, according to Dick Jones, has been based on the fact that WGN is a family of devoted people. "It's a corny phrase, but this really is a family here. On the radio side alone (apart from T.V.), we've got approximately 105 employees, and that's a lot of people. But, after all is said and done, WGN-Radio is people talking to people. We try to provide a good service . . . entertainingly."

**WLAK-FM 93.9 MHz; 6,000 watts**  
Format: Beautiful Music  
Based on interview with Program Director, Jack Lee.

WLAK began as WEBH, a jazz station, in 1948. After having been sold a few years later, the call letters were changed to WWEL and programming shifted to a beautiful music format. Ownership changed again in 1972, and the station became WLAK with a semi-automated beautiful music format, and according to Pulse, Jan/Feb 1975, WLAK holds the fourth largest share of total audience 12+ (6% share, tied with WCFL).

Jack Lee, Program Director, has some observations on what he feels is a unique market. "Chicago is one of the most conservative radio markets, probably one of the slowest to accept FM. Most other markets of this size have at least one FM station in, say, the top 5, but up until recently it had been very difficult for an FM station to make any definite inroads into the market. FM's are finally reaching equality because of the availability of FM receivers, and the 'creatures of habit' or the people in this market are finally recognizing FM.

"In this market you can't be all things to all people . . . you've got to find something and go with it. We decided to go with a beautiful music format because when we started out there wasn't a good, quality FM beautiful music station. We use Jim Schulke's SRP service in New York. We aim at the 18-49 adult audience, and our philosophy is that if you get the women . . . the men will follow along. The women tend to control the dial, especially through housewife time . . . anywhere from 8 in the morning to 7 at night."

Jack Lee says that the programming is a constant, and the format is adhered to very strictly. "We play a lot of strings, a lot of full orchestration, cover jobs of current hits by the large orchestras . . . Percy Faith, Montavani, and the Living Strings. We do play some vocals, like an Andy Williams, or Frank Sinatra, but they're generally limited to about two or three an hour.

Music is programmed in four blocks per hour, about 15 minutes each, with 16 or 17 musical pieces played per hour. "The hottest song might only be repeated four or five times in one week, and often we play different versions of the same song. The strength of our format is that most of our music is already familiar to the audience . . . if they don't know the

name, they recognize the melody.

"The music is a flow . . . transitional from one segment to the next. You can't go from one type of song to another . . . it will irritate the listener. SRP in New York tries to brighten up the music a bit in the spring, soften it up a bit in the fall. Brighten it up a little in the morning, and soften it at night. It goes with the moods and flow of the day. We also have special tapes we'll play on St. Patrick's Day, during the Christmas season, Easter, etc."

WLAK has strict commercial limit of 6 per hour. "That's six commercial units . . . a 10 counts as much as a 30 or 60. We try not to sell ten . . . and we get a premium rate for each spot. That's how we can limit them to 6. We carefully call our commercials as well. We have turned down commercials when they do not conform to our format . . . such as a raucous commercial for a speedway, or some personal products."

There is not really much announcing involved in WLAK's sound. Songs are not introduced, nor are they back-announced. "As we come out of music we'll do a buffer I.D., then do two spots. At :30 we'll do the time and temperature, and on the top of the hour we'll do a capsule news of about a minute and a half. As we go back into the music, we'll do an image I.D. Other than that, there are no jingles or station promotions on the air.

"We've been very careful in selecting the right announcer for the right shift. They associate with the people and don't talk down to them . . . they're not like an automated voice, and we try to give a consistent class image so people will always know what to expect."

"The purpose of the announcer is to create warm, friendly conversation between the segments of music . . . and to do the news and spots. He's not too personality filled . . . he is just there as a friend. But his main job is to serve as a transition between the commercials and the music. We try to match the announcer's voice to the moods of the day as well. The morning man is a little bit brighter, the afternoon man is a little bit softer and straighter. The night guy is the heaviest and straightest of all.

"Our morning man is Bruce McCormick from 6 'til 10. I pull a shift from 1 until 6, Wally Rich is on from 6 until 11 PM, and Bob Bradley is on from 11 at night

to 10:00 a.m., Monday through Friday, is the outstanding personality in the Chicago market. He arrives at the studio at about 4:30 a.m. and goes through the newspapers . . . and before he leaves in the late afternoon, he has mapped out what he wants to do on his show the next day. His show is his personality, with talk, conversation, and very little music . . . maybe one or two records per hour. People call in and talk about things in the news, what happened on television the night before, or Wally might call a celebrity. A conference call is set up so the audience can directly participate in asking questions of either Wally or his guests. He does a lot of trivia-type contests on movies, TV and sports . . . and in general his show is light. The idea is to keep the show light and entertaining because of the early morning hours when the audience is arising and preparing for the work day. Wally says he never underestimates the intelligence of his audience, as they often come up with answers to other people's questions.

"Other than that, Wally's show is filled with services. We have our own heliport with two helicopters for traffic reports, which are aired throughout the morning, along with newscasts and stock market reports.

"We try to interlace each program with the next . . . before Wally goes off, the next personality, Roy Leonard, will come into the studio, and they'll talk to each other for a few minutes. It's a nice

friendly approach.

"Roy Leonard's show is a music show from 10 AM to 12 Noon. He's generally contemporary, but he can play anything . . . country and western, jazz, classical, or even rock . . . if there is a reason for playing it. He might want to play a rock record, the reason being to point out what it is the kids like about that certain recording. Again, if he can justify playing it, the listeners, who are mainly housewives, will accept his motive. At other times, Roy will do a "Special" throughout his show, playing the music of a certain artist from Duke Ellington to the Beatles, Sinatra, Elton John and John Denver . . . or possibly featuring movie soundtracks. Roy plays about 10 records per hour, appealing largely to young adults.

"At 12 o'clock is the "Noon Show" with Orion Samuelson and Bill Mason. It's a farm show, and some people think we're crazy for programming it, but it's been on the air for years. It's of great service to the farmer and the show is fully sponsored.

"Currently from 1 to 4 PM is Cubs baseball with Vince Lloyd and Lou Boudreau. Then at 4 until 7 PM is the "Bill Berg Show." Bill, like Wally Phillips, will take a lot of phone calls and play very little music. People call in and give their opinions on umpteenthousand different topics. It's a little bit more serious than the morning show because as the day has progressed, people have read the papers

and want to discuss what the issues are.

"Bob Collins is on from 2 to 4 PM on non-baseball days and 7 to 9 PM, with a contemporary music show. Bob is the youngest member of the WGN family, but his show is not necessarily geared to the teens . . . it's still aimed to please everybody, but with a *younger* style.

"Extension 720' is a two hour discussion show (9 to 11 PM), hosted by psychologist, Dr. Milton Rosenberg. He covers difficult topics each night using a panel of guests, who will sit and discuss a topic in depth for two hours. The listener has the opportunity to call in and ask any member of the panel questions. Topics range from politics and nuclear weapons to literature and the theater. It again goes to prove that there is a very intelligent audience out there that can hang-in for two hours . . . because the phone is constantly lit up. I believe 'Extension 720' is a program of great prestige.

"The all-night show, from 11 PM to 5:30 AM is the 'Jay Andres Show.' It's basically an easy listening show. Jay features a cross-section of music including the Boston Pops, Ella Fitzgerald, John Denver, the Carpenters, etc."

Each WGN personality has his own producer, again reflecting the belief of a well-planned and prepared show. "The personality and producer work together as a team . . . but production has changed over the years. You used to hire a separate writer, producer and director. It's now



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The general programming concept of the station is that of efficiency and bottom line, "Generally I will take each time period and ask myself what is the largest audience available to me at that time, and I'll attempt to program to reach the largest segment. Programming is also related to sales, in that I'll attempt to deliver the audience the sales department wants in different day parts."

Research is a much-used tool at WLS. Not only is the music researched, but all other programming factors as well. "We're always trying to find out what the audience wants through total audience research, beyond just music. We use very little gut feel at WLS . . . with all the competition, and considering our size, we can't afford that. We must be sure that the records we play are right."

"Research is a constant, and we're always trying to improve it. Our current program includes calling 150 record stores in a 5-state area, weekly, asking for the top 10 to 30 albums and singles, tabulating four to five thousand requests per week, and using high school representatives from surrounding high schools to get reactions on everything from music, to contests, to prizes."

John recognizes a possible problem in relying solely on record sales as a programming guide. Generally, younger people make up the record buyers, and WLS is programming to a mass appeal audience, so a possible problem in reflecting the tastes of the older listeners is present. "Somehow record sales seem to work, though. It is the teens that bring in the big artists and the musical trends. Using record sales is probably not perfect, but WLS is so successful, it seems to work. I feel that pop music, today, except for the heavy 'metal' groups, appeals to the mass audience. The heavy 'metal' groups are programmed at night when we feel their audience is tuned in."

"There is rarely such a thing as an 'automatic' record. We have a written record policy . . . a single must have significant local sales, it has to be No. 20 or above with bullets in all four trades, or top ten in any one of the trades for that single to get into our music meeting. We rarely take a record off the wall, unless it's by an unquestionable artist like Elton John, but the record must still be good."

The music selection is also related to a close watch of the stations in surrounding secondary markets. "We watch the stations who have a looser playlist, and I feel we have that 'luxury' in a market the size of Chicago. If many of the surrounding markets are selling along with airplay, then that will get the record into a music meeting for consideration as well."

The WLS playlist is an 18-title, controlled list. "Familiarity is what everything is based on. It takes a long time for an adult to build familiarity and to be aware of records, therefore 18 records is plenty. Most records don't get played more than twice per show."

"The playlist consists, then, of basically 18 current singles . . . and the sound is about 50% gold. The span of gold years changes throughout the day to reflect the different audiences at different times of the day. Out of the 18 currents, 14 are surveyed with the rest being 'extras.' The top records get the heaviest rotation . . . the number one record probably being played close to once an hour."

"We add anywhere from one to three records per week, and depending on requests, separate records are often added for nighttime play. Again, we must be aware of what the audience wants, and we must reflect that in the music programming. We rarely use the national charts, simply because they don't reflect the Chicago market. I feel that Chicago has some very definite music tastes that are different from the rest of the country. For example, R&B records don't seem to cross over into pop as strong as they do elsewhere."

The tight controls over the playlist are reflected in the selection of music in each announcer's shift. "The jocks must follow a pre-determined order or formula of music, but have some freedom within the categories that make up the formula. They must meet certain criteria for each category by the end of their shift. Other controls include often editing songs that are over 3½ minutes in length."

The WLS lineup is as follows:

6-10 AM: FRED WINSTON: "He's humorous, and does a lot off the top of his head. He works together with newsmen, Lyle Dean, and together they do a lot of bits, one of which is 'Choose Your News,' where Lyle will present some

funny headlines and Fred will choose which one he wants to hear. The story usually has a punchline. The morning shift is geared toward men, with more sports, two newscasts per hour, and sticking to the top hits. We're only taking the short, headline newscasts from ABC rather than the full newscast."

10 AM-2 PM: J.J. JEFFREY: "J.J.'s style appeals more to housewives. He's got witty comments, but keeps the music coming, with more older gold. The commercial load is less and the current playlist is expanded. The contests are day-parted . . . often small contests will run for a week, and are geared to the different types of listeners at different time periods."

2-6 PM: BOB SIROTT: "Here we're interested in males again, but we're more aware of the teens that are out of school at 3:00. Bob has more sports again with Howard Cossell, and there are shifts in the music to reflect the teens without losing the older males. There are more current records, a little bit more hard stuff, and we won't go quite as far back in the oldies."

6-10 PM: JOHN LANDECKER: "John delivers a real personality type rock show geared to the teens. There is no news, and a shift in the music towards the younger listener, playing more current and new records with the gold cut back. He does a 'Boogie Check' where kids will call and rap on the air for about 3 or 4 minutes at a time . . . it's been a real successful feature on John's show."

10 PM-2 AM: STEVE KING: "Steve's show is basically a continuation of the flavor we started with John. Towards the end of the shift, early in the morning, more adults come back into the audience, so we'll reflect those changes in the music."

2-6 AM: YVONNE DANIELS: "I feel Yvonne is one of the best female personalities on the air. Her show comes back more into the adult orientation . . . the mainstream of daytime programming."

The concept of 'familiarity' is also present in WLS's jingle policies. "We I.D. the station as often as possible, not only with jocks saying the call letters, but jingling like crazy. Our jingles are more than just shotgun jingles, and they have a definite purpose. The jingles sell the station. They don't just say the call letter, but say such things as 'Musicradio WLS,'

(L to R) 1) Dennis Ciapura, Chief Engineer (left); Bruce McCormick, morning announcer (center); and Jack Lee, Program Director (right) in WLAK's air studio. 2) Format used in WLAK's billboard and transit advertising. T.V. advertising appears heavily in news and sports programs using 10's and 30's attempting to establish identification between call letters and

dial number. Call letters are often promoted as "W94," or "FM94." WLAK is also involved in a time exchange deal with WBBM newsradio. 3) John Gehron, Program Director of WLS. 4) The WLS air studio. WLS plans to install new facilities with 4-track capabilities, including re-building and renovating all air and production studios, as well as updating the transmitter

and moving its sight closer to the Chicago area. No equalization is added to the program line, but compression is added, as well as considerable reverb, "to make the sound fuller and more distinctive in a signal-crowded market." Pictured in photo are: (on the air) newsmen Jeff Hendricks, left; personality J.J. Jeffrey, right. Engineer in foreground, Dale Schimp.





until 6 in the morning. The only time we vary from the format is on Sunday morning with Public Service programming from 3:30 AM to 9 AM. Carol Henry is our full time Community Affairs director."

Jack Lee says he believes in quality all the way around. That goes for the equipment as well as the programming. "We have Gates and Scully automation systems, using two machines for our basic tapes, and a third machine with a fill tape in case any of the segments run a little short. We have our main transmitter on top of the Sears tower, and we have a standby on top of the John Hancock center. That's a little unusual . . . we have two of the best facilities, with one serving only as a standby."

Mr. Lee feels that beautiful music stations were "background" stations in the 50's or 60's, but believes that the music no longer serves that purpose. "We're just as good in reaching just as many people as any other station in Chicago. We attempt to give a service which is music they like . . . and that by no means is background. We get many calls everyday asking, ' . . . what was that song?' It's a form of entertainment and enjoyment and our listener is just as active as any other person listening to the radio."

**WLS** 890 kHz; 50,000 watt, clear channel. ABC  
Format: Mass Appeal Contemporary  
Based on an interview with Program Director, John Gehron.

WLS has been involved with a personality-oriented rock format since 1960. The approach is "mass appeal," after an audience in the age group of 12 to 49, and Pulse says WLS has the largest radio audience in America, ARB says it's second only to WABC in New York.

John Gehron, Program Director, says that programming the station is no easy task, "We must be careful with records and rotation. A 12 year old picks up on a record far sooner than a 49 year old. It's much harder to program a station like this, as opposed to one going after a very small segment of the audience. It's easier to find out what a small segment wants, and it's easier to please them once you have found out. With our mass appeal approach, we must make compromises."

WLS has a specific order of priorities in the programming content, "Music is of utmost importance, and that's why we call ourselves 'Musicradio WLS.' Second in line is personality . . . controlled talking, to entertain and inform. I feel that stations who use the 'jukebox' formula of just playing records and having a voice for the sake of a voice will not build up any station loyalty, therefore, good personality is important. The jock has got to say something, and I keep a constant watch through listening to skimmer tapes of the shifts."



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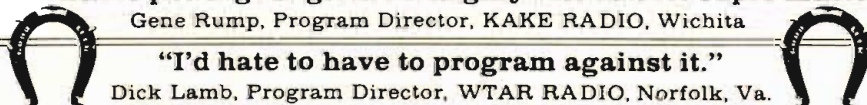
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when to tune in for them.

O'Donnell: Outside of the drive time periods we try to get into more human interest, or people news. We will not repeat the hard news stories as often during the mid-day.

Hultman: We feel this helps in trying to hold listeners for a longer period of time when the radio is on all day in say a kitchen or office. But we would break in at any time into a feature with an important late hard news story. There have been instances when we drop everything . . . even commercials when a story is important enough . . . for example when a plane goes down, or in the case of a blizzard. We'll continue that story until it has been resolved. In such cases, the other news stories would be interspread, but that one story would be concentrated on.

One important aspect of any news operation is that you are giving a balance approach to the news . . . covering all sides of a story. We seek out different spokesmen to get varying viewpoints.

Milberg: We sometimes attack difficult issues . . . for instance, as a result of a series of editorials by Mr. O'Donnell, the Chicago area will soon have an emergency Police number . . . only dialing 911 rather than a whole number.

O'Donnell: As a result of our local interview program, "At Issue," which features in-studio guests, we have uncovered many news stories that were first heard on the program, and the next day were newspaper headlines. Often newspapers will send reporters just to cover the program itself.

Hultman: The only deviation from the all news format is the CBS Mystery Theater at night. Even though we carry the Mystery Theater, we are never far enough away from news that we would cut in at any time to give a special report.

We have a staff of around 40 people in the newsroom. The on-air people must have experience, because they have to do many things and do them well. Each person is on for four hours at a time, and they have to be a good reporter, a good writer, and a good commercial announcer. Many of our people have backgrounds in journalism. It is helpful to have such a background, but not mandatory. Good news writers must be good tape editors . . . able to get the meat of a story from many tapes . . . and able to write in a good broadcast style.

In many all news formats, you tune in, and it's just a voice . . . you're not sure just who's on the air. We have tried to establish personalities in this regard. We have a dual anchor team on in the morning and afternoon, as well as a husband and wife team on in mid day. People get to know who is on the air.

O'Donnell: We're trying to establish a listener-personality repoire. When they tune us in, they feel like they have a friend there who they know, trust, and rely on . . . much the same as having an anchor man on television who people can relate to. But the conversational approach has an important aspect, in that while engaging in conversation, they must not be interjecting editorial, opinionated comments. We're very careful about that.

Hultman: We also use a wide variety of actualities throughout the day. We have actualities that come from our own reporters, from CBS, news feeds, and from UPI audio. We use them only where they're applicable. There is not any one given rule about their use . . . we get maybe 250-300 carts of actualities each day. We vary their use . . . in one hour we might use a story as a straight reader . . . the next hour, to vary it, we might use the actuality. But we never stuff meaningless actualities into the news. We use them where they make sense.

For on the air we've developed our own package of logos and sounders using electronic moog effects. The logos are used as programming cues for headlines, sports, station i.d.'s, weather . . .

Milberg: For every kind of weather, for example, we have a different kind of jingle . . . like the wind blowing, one for rain, etc.

O'Donnell: Let me just say that an all news station is very difficult to do, and it must be done correctly. There have been attempts where people have had 8 announcers who just rip the wires and read them 24 hours per day. We don't call that an all news station. If you're going to do this right, you must make a full and total commitment to it, 24 hours per day, 7 days per week. We constantly up-date and rework stories to make them interesting, so you can listen to this station for long periods of time. We work with the format everyday to try to generate new features and new interest for our listeners. Just like the news is constantly changing . . . this format is constantly changing.

Circle No. 141

around the clock private exclusive weather service of 14 meteorologists, and "Computer Traffic Control," which is a unique traffic condition reporting system. We have an arrangement with the State of Illinois Chicago Area Expressway Surveillance Project, where every half-mile on the Chicago Expressway there is a sensing device buried in the pavement. They report traffic conditions to a computer, and we tap the information. Other news and features are centered on sports, women's interests, leisure and entertainment news and reviews, controversy, opinion, and human interest, science and medicine, business and finance, consumers, rural and agriculture, and religion.

Hultman: At night we again do more features, interviews and lengthy things . . . things we would not do in drive time. Throughout the day, many of our features are on at specific times so people know

(L to R) 1) WBBM's computer traffic control monitoring center. 2) Example of WBBM newspaper ad. Current advertising involves 5 t.v. stations, newspapers, magazines, buses, billboards, and radio. WBBM exchanges airtime

with other radio stations in the Chicago market -using an example theme for a music station: "If you want good music, stay where you are, but when you're ready for the news, join 'those newspeople' on WBBM." 3) WDFH-FM Pro-

gram Director, Ron Dennington, left, and General Manager, Harvey Pearlman, right.

4) WDFH morning personality, Gary Bryan.



'Musicradio 89 WLS,' 'The Music Sounds Best on WLS,' using phrases to sell the concepts of what we're trying to present on the air. We use the word 'music' rather than a defining term like 'rock' in our jingles, so they will appeal to the most people as possible. Because we use so many jingles, we burn them out rather quickly, so we keep getting new jingle packages to freshen up the sound of the radio station. Freshening the sound is important. A shotgun jingle might run for a long time, while a phrase jingle might run for 3 or 4 months . . . however, each week, on the average, one of the jingle carts is changed. It's a constant renewing process."

John says that the success of WLS has been based on the people who make up the radio station. "Our success is based on people . . . it all comes down to the staff, their talent, quality, and morale. When each guy works in step with the other guy, you can't be beat. A radio station, when it all comes down to it, is just people . . . no matter how much equipment there is. It involves dedication to the job. I always make sure each guy understands *why* he's doing something. If he understands, and believes in it, he won't break the format, and it will work."

**WBBM** 780 kHz; 50,000 watt, clear channel. CBS  
Format: All News  
Based on a conference with John Hultman, News Director; William C. O'Donnell, G.M., and V.P. CBS Radio; and David Milberg, Director of Information Services.

WBBM was previously an MOR station programming music, sports, and talk. An all news format was initiated in May of 1968, and WBBM is currently the only all news station in the Chicago market.

William C. O'Donnell: We felt that there was a big void in this kind of a service for a major market like Chicago. An all news format is tremendously expensive, and we could probably program three radio stations for what it costs us to put all news on the air, but we felt that we could best serve our listeners with this kind of format.

All news radio is a totally different business than a newspaper.

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The Automated Programming People  
**rpm**

John Hultman: It's different because we tell a little bit about a lot of things.

O'Donnell: Obviously we're not in the position to go into the depth of a story that a newspaper can, but the main thing we do is take advantage of what is the real strength of radio . . . and that is its *immediacy*. When you get right down to it, newspapers are reporting *history*, stories that might have happened 6, 8, or 24 hours earlier. On radio, we're reporting *news*, and when a story breaks, we have a reporter there right now. We can bring that news story and the voices of the newsmakers immediately to our listeners. That is our strength.

Our target audience, as far as we're concerned, is anybody that can listen to the radio. Our listeners tend to be more adult, and we would love to have more people in the 18-24 audience, but we are a total information news service, and we feel that everyone is interested in news in some form or another. We're interested in fulfilling the need of the listener in terms of news . . . what is happening locally, regionally, nationally, and internationally.

Hultman: We're not trying to appeal in different ways to different age groups, in other words, we won't cover a specific story just to appeal to an 18-year old. We're after everybody.

Our philosophy of news is grouped into drive time and non-drive time type format. From 6 to 10 in the morning and from 3 to 7 in the afternoon, we are programming a lot of information over and over again, covering news, sports,

weather, traffic, and business in a short period of time.

O'Donnell: Obviously in drive time, people tend to start at home, and listen to us as they drive to work . . . taking maybe 25 to 40 minutes. When we say repeat, we don't mean repeat the same stories verbatim. We re-write and hit a different aspect of the story each time. In drive time you have to pass a lot of information past the people in a hurry, because they're moving. If they've just tuned in, you've got to be sure they haven't missed the major stories. As a general rule, we try to condense the news stories as much as possible.

Hultman: We do two mini-summaries at 15 and 45 past the hour, and they're more than just headline summaries . . . they're summaries of 8 or 10 big stories at a given time. It allows people to catch up on the top stories in a capsule two minutes.

At the top of each hour we have the national network news feed, and coming out of that we'll try to be more local. At the half hour, we'll go back to the national and international stories, because it's been a good 20 minutes since that news has been reported. However, the most important story at a given time, whether it be local or national, will be the lead story, and the priorities of the news stories are judged by our news editors.

Getting out of the drive time periods, and into the middle of the day, we'll do more interviews, features, women's news.

Dave Milberg: Some of our features include "Weather Command," which is an

(L to R) 1) The WLS air staff: from left to right, Steve King, Bob Sirott, Yvonne Daniels, John Landecker, Fred Winston, J.J. Jeffrey. 2) WLS outdoor display. WLS is engaged in a full scale advertising program, including the inside and outside of buses, billboards, newspapers, and television. "We try to keep our sta-

tion as visible as possible. Hopefully when you come to Chicago, it doesn't take you long to find out about WLS. We're constantly building impressions." In addition, WLS constantly promotes with small daypart and full scale contests. 3) Newsman, Sherman Kaplan (left), and News Director, John Hultman (right), on the air at

WBBM. Out of studio reporting is carried out with two-way radios in mobile units, 'handy talkies' for out of car transmission, Sony tape recorders, and devices for feeding tape back over the telephone. 4) The WBBM newsroom.





If more people would listen to the country, the world would be a richer place.



(L to R) 1) WDHF's logo used in t.v. advertising, bus cards, and posters. Efforts of campaign are centered on luring the listener from AM over to FM. Call letter promotion has just been changed to an identity as "F-95½" to avoid con-

fusion with WDAI, a competing station close on the dial. 2). WMAQ's Program Director, Lee Sherwood. 3). WMAQ personality, Bill Coffey (background), and female engineer, Connie Abel, on the air. 4) One of several ads seen in

Chicago newspapers promoting WMAQ'S ten-thousand dollar cash call. Primary thrust of annual half-million dollar campaign has been in television with "humorous commercials resembling Alka Seltzer commercials."

historic radio stations in America. "MAQ went on the air 52 years ago, and it was the primary creator and packager of network programs back in the golden days . . . doing things like Amos 'n Andy. Garry Moore and Dave Garroway got started here. At one time there were 11 radio studios here, which were all in uses all day long. And WMAQ kept going in its original tradition, but as the market changed, the station began going downhill. About ten years ago, it reached the bottom of its life, and had been fumbling ever since.

"During the past ten years it had been kind of an MOR station, taking a lot of network things. It changed formats several times . . . going to all talk a few years ago . . . changed management . . . and finally just lost its identity.

"I was working for the network and was sent here a year ago April to do some consulting work, and after surveying what was already here, we talked about a lot of different formats. The one niche that looked to me like it wasn't filled was country music. So we did a lot of market research, hiring a couple of companies to make random telephone calls to the public based on a questionnaire that we had formatted, and it verified the fact that there was room. So our decision was heavily based on research . . . and whenever I talk to program directors who rely on gut reaction, I feel they're going to lose."

Sherwood believes that country music is growing tremendously in America. "Television is a key indicator of that . . . the more you see country artists on t.v., the more it legitimizes the acceptance of country music.

"Before I came to Chicago, I took a trip around and brought back air checks of a lot of the country stations in the U.S. But I found that something was really wrong in what I heard. The programming and the concepts to me didn't seem to be very professional . . . they didn't seem to be based on anything other than gut feel. For example, many country stations have a playlist of 70 records. Why do top 40 stations, whose playlists are notoriously short, differ from country? We decided to do research in that regard as well . . . so we hired a music director who was more than someone who just

listens to records and promotion men and says, 'hey, I think we ought to play that.' Our music director is Bob Pittman, and his background is in research.

"When Bob came to town, he started to do research on people's perceptions of country music . . . primarily by telephone interviews on a random basis throughout the Chicago and outlying areas. It was interesting, that often when people were asked what their *least* favorite kind of music was, the answer was classical, opera, and country. But when you ask them what their favorite song is, they might say, 'Behind Closed Doors,' and they did not perceive that as country. If they *didn't* like it, it was country, but if they did, it was just good music. So we're trying to cut through the perceptions that people have about country. Then we did subsequent research after that with Hooper, and our own staff, to find out what were the people's favorite songs, to get some hold on where we were going with the kind of music we were going to play. We also went through the sales records of past hits, and only selected the major hits of the past 10 years as oldies."

Research is still the key word when it comes to WMAQ's current playlist. "We now have full time request operators from 6 AM until midnight who chart and tabulate 7,000 phone calls a week. For each call we ask approximate age groups, and where they're calling from so we can key our music to whatever demographic we want.

"What we do very little of is what every other radio station does and calls research . . . or phoning the local record store. Record stores will either notoriously just read your playlist back to you, or they'll just say 'yes.' To check this out, we've had our girls make up a few song titles and call the record stores, and they said, 'yeah, those are selling great' . . . but they didn't even exist. So I know that information is very faulty. But our request sample has to be very big, or else we're missing the characteristics of the majority of the people . . . or those who don't call in and request a song. So in our playlist, we're playing the numbers game . . . majority rules. It's all research with no personal feelings. We also trade information with a couple of other country

stations that do similar research to us.

"We have a balance of airplay . . . playing every aspect of country. We computed the listening span of the audience, formulated clocks around that, and then built the playlist and frequency of rotation around the clocks . . . rather than saying we're going to play 70 records and designing the clocks from there. We have clocks for every day part and even weekends, and we average 14 records in the morning and 16 per hour in the mid-day. Speaking of mid-day, we don't consider it to be housewife time. As a matter of fact, we have some very male-oriented commercials on during that time, and our male audience seems to be there in the afternoon. Anyhow, from our clocks, we have determined that our playlist would be roughly 35 records, adding only two or three records every week. Compared to top 40, our playlist is rather broad, but to other country stations, it is only half of what they are playing. We end up avoiding a lot of the mid-chart records.

"The difference between us and most country stations is that they don't go to those extremes and take all that time, care, and energy in balancing and really finding out what people want to hear. We've taken the attitude that WMAQ is going to be a very modern, 1975 radio station that plays country music . . . with a very firm foundation.

"Our whole approach to radio is one of warmth and humanness in communication, but keeping in mind that what the audience most wants to hear is music. But we definitely have personality. The jocks have no control over the music they play . . . it's all pre-determined for them. And we don't have a separate 'show' for each disc jockey . . . it's a 24-hour sound. I'm on from 6 to 10 in the morning, Bill Coffey is on mid-days, Bob Pittman, our Music Director, is on afternoon drive, Ellie Dylan is on evenings, and Fred Sanders is all night. Our whole delivery and concepts are based on positives and positive thinking. That way we can become a positive force in the lives of our listeners. For instance, we'll say 'partly sunny' instead of 'partly cloudy.' Now that's just a small thing, but when you take that concept and apply it to the whole radio station, that's what I'm talk-

**WDHF-FM** 95.5 mhz; 6,000 watts  
Metromedia Stereo  
Format: Top 40 Rock  
Based on a conference with Program  
Director, Ron Dennington, and Gen-  
eral Manager, Harvey Pearlman.

As a top 40 rock station, WDHF is just over a year old, and within its short life has attained a significant growth in the Chicago teen radio audience. According to ARB, in April/May of 1974, WDHF's share of audience was 3.1%. In July/August, it had climbed to a 6.0, followed by a 10.5 in October/November, a 12.7% share in January/February, and 13.0 in April/May, 1975.

Ron Dennington, WDHF's Program Director, says that with about 35 signals in the area, Chicago is a highly competitive market. "In order to compete, each individual station has to really fractionalize their programming. It's also been tough because for some reason, up until recently, FM has been slower in getting acceptance. FM is starting to get more acceptance now because of better sounding FM stations with more diversified programming.

"This station was previously an adult MOR format with a lot of news, and low ratings. I came here from WGCL in Cleveland, which was running a top 40 format. When I arrived, we decided to go with a top 40 format because at the time nobody had yet attempted on FM stereo top 40 station. So we decided to be the first."

Ron describes the station's sound as a good, high energy, clean, cooking top 40 . . . without screaming. "We chose a high energy approach, because I felt that in Chicago, some of the energy and excitement had left top 40. So it is high energy . . . more so at night due to teen appeal . . . but without screaming. We're taking a slightly different approach, using semi-personality. The jocks only talk when they feel they have something to say, and when they don't, they keep the talk down to a minimum.

"Our most recent success has been our surge of teen audience, especially at night and on weekends . . . and our upward trend in 18-24. Most of our teen audience has come from the AM top 40 rock stations, and the reason it is working, apparently is because we're an alternative. We play less commercials . . . a maximum of 8 minutes per hour . . . and it's the same top 40, but they can hear it in stereo."

Harvey Pearlman, General Manager, adds, ". . . our goals are actually to be a mass appeal music station, designed to reach the music tastes of a 16 year old. Now that is the music tastes of a 16 year old . . . whether that person is 16, 35, or 49."

Mid days, all nights, and on weekends, WDHF is programming a current hit/oldie ratio of one-to-one. All other times, the

balance is two current hits for every oldie. "We're trying to program to the available audience," says Dennington, "and we've got a slightly older audience during the mid day. There are 27 current songs on our playlist, which stays the same 24 hours per day. It's a good, moderate playlist, and I don't really believe in playing only 18 records. On FM, with a lighter spotload, you've got room for a bigger rotation . . . but then again, I wouldn't play 35 records either. The spectrum of our music is from R&B to hard rock . . . all the hits. I like to think of it actually as an AM station on FM, but we don't have any length restrictions for songs. We won't play any album cuts, with the exception of something like "Pinball Wizard" by Elton John."

Harvey Pearlman says that WDHF will not break a new release. "Occasionally we will move in a little bit faster on something that hasn't started to move that quickly. Or sometimes we will play a game with a novelty record like 'Shaving Cream' by Bennie Bell."

In determining the playlist, according to Dennington, local record store sales, national record charts, and competing station's playlists are taken into account. "We take requests, but rarely have the manpower to take them into account in our playlist . . . but we call record stores, watch the other stations, and use Bill Gavin's report, Radio & Records, and Cal Rudman's sheet. We average about 5 adds each week . . . but sometimes they're just extras. I select the current list, and the jocks pick the oldies, which date back to around 1968.

"We're pretty well structured, so all of our jocks sound basically the same. We do have more teen appeal at night . . . trying to be hip, without being corny, and most of our jocks are younger guys. We try not to come on plastic or phony . . . talking on the level of people whose lifestyles would be compatible to our format. From 6 to 10 AM is Gary Bryan; from 10 AM to 12 noon, I'm on, using the name 'Ronnie Knight'; 12 noon to 4 PM is Terry Thompson; 4 to 8 PM, Tom Jeffries; 8 PM to 1 AM, Jim Channell; and from 1 to 6

AM is F.J. Bailey. Again, their styles are slightly different, but we're structured as to where the station sounds basically the same.

"We call our night jock, Jim Channell, 'Captain Whammo.' The kids call up on the 'Whammo Line' and rap about all kinds of things on the air . . . what they like, who they go out with."

News is programmed on weekdays from 6 AM to 6 PM. "We don't have news at night," says Dennington, "and we don't have it on the weekends at all from 6 AM Saturday morning until midnight Sunday. With our audience, news is a tune-out . . . so we cut it to a minimum. We subscribe to Earth News . . . and on Sunday mornings from 9 until noon, we program the American Top 40 program."

WDHF uses only one jingle . . . a shotgun jingle used at the end of stop sets, and on the hour and half hour. Contests are primarily teen-oriented. "We give away albums, concert tickets, and t-shirts, mainly through call-in type contests."

Ron says that the biggest difficulty in doing an FM top 40 format are the problems faced in competing with the huge images of WLS and WCFL. "They've been here for so long, and it's difficult to get people to come across to FM. But once they do come across, it seems that they don't go back to AM . . . and that goes especially for teens."

**WMAQ** 670 kHz; 50,000 watt  
clear channel. NBC  
Format: Mass Appeal Country Music  
Based on an interview with Program  
Director, Lee Sherwood.

WMAQ initiated a format change to Country music in January of 1975, and since its inception, the station has consistently gained audience share. According to a survey by Hooper, for Total Persons, Monday to Friday, 7 AM to 10 PM, WMAQ's audience share has grown according to the following: January, 3.1; Format change; February, 6.8% share; March, 8.5; and April, 9.0.

Lee Sherwood, WMAQ's Program Director, says that the facility is one of the

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can call in and talk about anything they want, and we do talk at night because if you look at the audience flow in a market, you'll find that the younger music-oriented audience declines quite rapidly after 9:00." All night, Chicago Eddie Schwartz. "Chicago Schwartz is one of the true classic stories in the radio business . . . beginning his career literally in WIND's mailroom in the early 60's. He's lived in Chicago all his life and knows everything about this town . . . I would swear that he knows every cab driver here. He plays as few as four records per hour, does some celebrity interviews, and gets involved in things like UFO's. It's a wild assortment of things, and his main reference is to appeal to those people who are up all night, perhaps working. On the weekends are Dick Williamson and Gary Gears, who feature music similar to what is heard during the week.

"Other programming includes Chicago Bulls play-by-play, and Notre Dame football. On Sunday nights from 10 - 1 we do a public affairs program in a magazine format, called 'This Week in Chicago.' It consists of newsmaker interviews, plus on-the-scene features . . . a wrap up of what happened in Chicago during the week. We also get involved in locally produced specials and documentaries on a regular once-a-month basis."

Al Mitchell says that he uses jingles at every stop set . . . five stops in the hour, plus the news, using a total of seven

jingles in a typical hour. "Our jingles are a little bit different in that the melody of most contemporary jingles goes up . . . but ours goes down."

WIND uses a variety of outside activities to promote the station, including an annual spring kite fly in a Chicago park. "We do a remote broadcast from the park, and it attracts thousands of people with kites. We hold a variety of kite flying contests . . . most kites have the 'WIND' call letters on them, and we get good newspaper and t.v. coverage. We're also involved in contests on the air at all times. We try to gear our contests to fun, using some skill on the part of the listener, as opposed merely to chance or luck. A contest we did recently was called 'Sing Our Thing' in which people sent in post cards, and when we called them, if they could sing our jingle, they'd win a cassette recorder along with a tape of them singing on the air. Another spin-off of that was called 'Sing For Your Supper' where we gave away free dinners."

Al Mitchell feels that the success lies in the fact that WIND is an entertaining, fun, and *realistic* radio station. "We're presenting *real* people on the radio, dealing with the things that you as the *real* listener are interested in. Whatever is a part of this city and time in which we're living, is hopefully reflected in what we're doing on the air . . . but in a positive, up manner."

END



#### NEW RADIO ID PACKAGE FROM PARASOUND

Parasound, Inc. of San Francisco, CA, announces the availability of their first complete station ID package, "The Parasound Good-Time Radio ID Package," produced in conjunction with KIOI Radio in San Francisco. Twenty-three selections are available in this package which include Generic MOR/Rock, Hard Rock, orchestral fanfares, country pickin', a 40's theme, some synthesizer excursions, and news breaks. All IDs are available in stereo. Interested stations may purchase only the portions of the package that they feel useful for their formats. The package is available to any AM or FM station outside of California.

PARASOUND INC., 680 BEACH ST., SAN FRANCISCO, CA 94109.

Circle No. 117

#### OLDIES LIBRARY FOR RADIO STATIONS

"THE MUSIC DIRECTOR" Programming Service announces the availability of a basic oldies library on tape. The new service, available only to Radio Stations, features "the cream-of-the-crop" oldies from the 60's - 1960 thru 1969.

Herb Jackson, Client Relations Director of the firm stated the basic oldies library is available on 10 reels of tape in either mono or stereo. The series was made available due to the difficulty many radio stations are having locating oldies from the 60's in mint condition.

"THE MUSIC DIRECTOR" also publishes a MOR playlist and provides a music supply service to hundreds of U.S. and Canadian radio stations on a subscription basis.

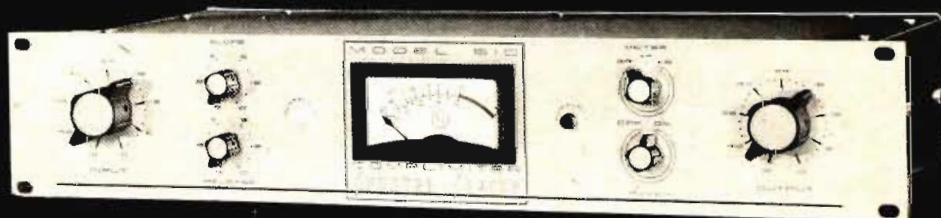
THE MUSIC DIRECTOR, P.O. BOX 177, CHESTNUT HILL, MASS. 02167.

Circle No. 118

#### CAPITOL INTRODUCES NEW A-2SP, A STEREO-PHASE CARTRIDGE WITH PERFORMANCE GUARANTEE

Audiopak A-2SP, a new stereo-phase broadcast cartridge guaranteed to eliminate high frequency loss from phase error, is now available from Capitol Magnetic Products, Los Angeles.

## COMPLIMITER™



MODEL 610

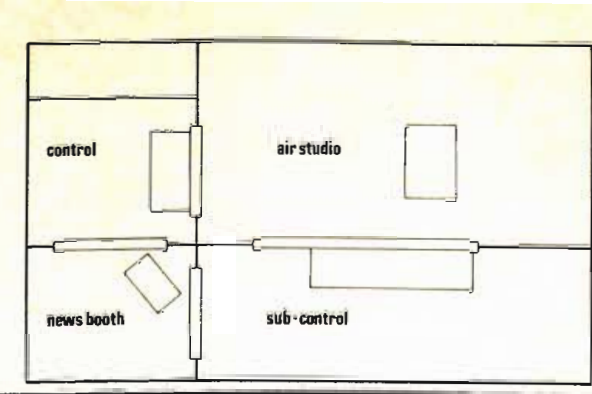
Used in recording studios; disc mastering studios; sound reinforcement systems; TV, AM, FM broadcast stations to maintain a *sustained average signal* at a level *significantly higher* than that possible in conventional limiters, and with performance that is seldom attained by most *linear amplifiers*. Rack mounted, solid state, functional styling, the Model 610 is in stock for immediate shipment.

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(L to R) 1) WIND's Program Director, Al Mitchell. 2) A view of WIND's air studio. Pictured is daytime personality, Stu Collins. 3) A scene from a WIND animated t.v. commercial. Strategies of campaigns are to stress specific ser-

vices of the station, and advertising varies between all media with tendencies towards television when funds are available. Mitchell feels that Chicago is a very big newspaper town, so newspapers are used as well. 4) Floor plan of

WIND's air/production studios designed for efficiency so that either control room may be used in conjunction with either studio for a choice of air or production work.

ing about."

Sherwood says that since WMAQ has such a large staff with a tremendous overhead, the station has to appeal to a very large segment of the market. "We really had to build a country station with more mass appeal than perhaps any other country station for us to be successful. We've been trying to chart where our audience is coming from, and up to this point they're from rock, MOR, and other country stations. Country music, I believe, is becoming the new MOR of America . . . it's really mass appeal, especially the way we're presenting it. The age groups of our audience really runs the spectrum . . . from 6 to 60, with a dominance of males 25+."

WMAQ is involved in several contest promotions. "We're doing what is the world's oldest, yet most effective contest which works on people's greed . . . giving away money. Right now we're doing a cash call, making random calls out, giving away \$10,000 if the person answers his phone 'WMAQ is gonna make me rich.' Now \$10,000 may not be much compared to some other large markets, but for Chicago, it is a tremendous amount to give away."

Sherwood says that WMAQ has created some unique jingle concepts. "When we first went on the air, we bought the rights to the song 'Welcome to My World' for 45 days. We did 10 different music tracks to it. Then we got 60 major country artists, like Buck Owens, and Eddy Arnold, to sing this little vignette that we had developed, which went, ' . . . welcome to my world . . . my country music world . . . WMAQ, Chicago.' It was massive legwork tracking all those artists down and getting them into a 16-track recording studio each time, but it was a pretty effective package. I'm not really too sure how important jingles are today, though. We have them and use them . . . but our jingles aren't really country."

Lee Sherwood stresses that the success of WMAQ will be in its efforts to take a sophisticated, modern approach to broadcasting. "We're trying to be a great radio station that plays country music . . . not just a great country station. Because that doesn't reflect all of the other services you have to offer people."

**WIND AM 560 kHz; 5,000 watts**  
Westinghouse Broadcasting  
Format: Adult Contemporary  
Based on an interview with Program Director, Al Mitchell.

"The line we use to describe our station is, 'WIND puts it all together.' We try to put together the things that are important to our listeners' lives. From a radio station's point of view, music is one of those ingredients, along with news, personality, public affairs, and sports . . . we're trying to build a contemporary, yet well-rounded package." WIND's Program Director, Al Mitchell, sees his station as an alternative to the adult listener who wants to hear popular music, but doesn't want to listen to a rock, teen appeal station.

"We're trying to play the best of popular music. But unlike a rocker who might just be able to take the record sales figures and use that as a playlist, I have more subjective judgments that have to go into that because I'm dealing with an older audience who aren't necessarily record buyers. I've got to determine what music appeals to the 25-49 audience."

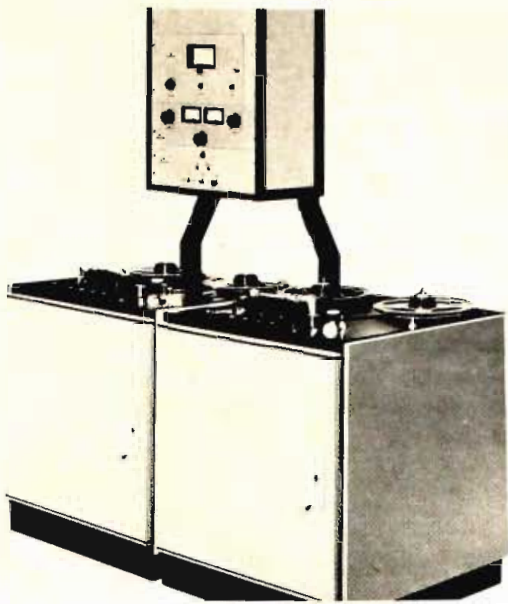
Most of WIND's 35-year history has been one of a music/news/sports station. Four years ago, the station successfully turned to what was one of the first all-oldies formats, and the current year-old contemporary format still reflects the prior oldies feel. "Over time, the impact of the oldies format lessened . . . but the decision was to build on the base of the oldies station, but at the same time broaden our base and audience support. So oldies still make up a good percentage of our play."

"Specifically, our music programming is divided up into three categories. Forty percent of what we play is current hit singles, running on a list of about twenty titles ranging from rock to easy listening. We're programming the mainline type of sound, and I pay a lot of attention to who appear as guests on t.v. variety shows. The stuff that is strictly teen appeal, or strictly any appeal beyond 25-49 gets cut off. We add 2-3 records per week, and generally will not break any records, but wait until they have built some familiarity. As far as sources . . . we use the usual realm of national trades, plus we survey some one-stops, distributors, and local

record stores.

"Sixty percent of what we play are oldies, and those are broken down into two categories . . . half of which are 'Jukebox Oldies.' A perfect example would be 'Tie a Yellow Ribbon' . . . the super pop standard that everyone knows, and there are around 300 - 400 titles that go back to the mid-60's. The remaining 30% of play are the rest of the oldies. Comprised of a list of around 1,000 titles, it might be something as recent as a record that just dropped off the charts, all the way back to 'Rock Around the Clock,' or 'Peggy Sue'."

WIND's personality and programming line-up is as follows. 6-10 AM, Bob DelGiorno. "Bob's show is humorous and light, with the telephones plus around 8 or 9 records per hour. His show has ten minutes of news on the hour, and five on the half-hour, including our own weatherman's report. We're dropping in a sports commentary, a quick sports cast, and three traffic reports in each hour." 10 AM to 2 PM, Chuck Benson. "Chuck takes request . . . not as a major thing, but the music mix will shift slightly to the oldies side as the requests lean that way. His attitude is positive, up, bright, and pleasant. He plays 14 records per hour." 2-6 PM, Stu Collins. "Stu is perhaps a little bit more upbeat than the previous guys with a faster kind of show. He spends a lot of time going through the papers each morning, and works off the top of his head with comments about sports and things. He plays 13 records per hour, and musically, it is back to the morning type of stuff . . . a little brighter, with more records available to him. His show includes 5 minutes of news on the hour and half hour, and the weather, sports, and traffic reports return." 6-10 PM, Connie Szerszen. "Connie bills herself as 'the top rock girlie jock . . . your Polish Princess' . . . being that Chicago is a very big place for Polish Americans. She's bright, up-tempo, and has a nice wide demographic appeal. With 14 records per hour, the music content is similar to the afternoon drive with more records available." 10 PM - Midnight, 'Contact . . . with Dave Baum.' "Contact is a very issue-oriented talk show, with open telephones, and often with an in-studio guest. The listeners



Based on a 30-minute program with both master and copies at 7-1/2 ips, the production output for an 8-hour shift would be approximately 100 copies per slave or 1,000 copies per shift from a 10-slave system. The key to the high output is the automatic master rewind and cueing.

Through the use of quickly-interchangeable head assemblies, the ES-2001 will duplicate both full- and half-track mono and two-track stereo programming. **ELECTRO SOUND, 725 KIFER RD., SUNNYVALE, CA 94086.**

Circle No. 124

#### AUDIO/VIDEO PROGRAMMING, INC. OFFERS THREE FREE RADIO PROGRAMS

Robert Syers, President of AVP has announced the availability of three radio programs offered to radio stations on a barter basis.

1) "Hitbound from Billboard" Hosted by Steve Lundy, an hour weekly show featuring the top single and album picks from Billboard magazine. 5 commercial avails per program.

2) "90 Minutes With" Hosted by legendary Robert W. Morgan, each bi-weekly 90 minute program takes an in-depth look at the life and music of an in-person guest such as the Beach Boys, Stevie Wonder, Olivia Newton-John, Elton John, etc. 6 commercial avails per program.

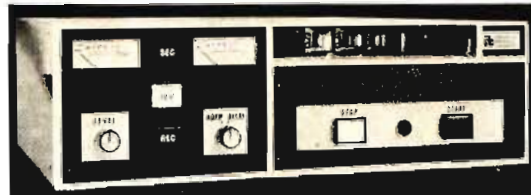
3) "Record Report with Robert W. Morgan" a perfect tie-in with the "90 Minutes With" program, "Record Report" is a daily 2½ minute news feature covering top recording stars, their lives, concerts, and music, with actualities. Designed to avoid the news tune-out factor in younger demographics. Program is run once with national spot, and then can be repeated throughout the day with the spot sold locally. 5 to 10 commercial avails per week, Monday through Friday.

**AUDIO/VIDEO PROGRAMMING, INC., 6362 HOLLYWOOD BLVD., LOS ANGELES, CA 90028.**

Circle No. 125

#### NEW RP DELAY UNIT FROM INTERNATIONAL TAPETRONICS UTILIZES SEPARATE THIRD HEAD AND AMPLIFIER FOR DELAY PLAYBACK

International Tapetronics Corporation's new RP Delay unit combines all the features of ITC's RP Series Master Recorder/Reproducer with the additional capability of program delay. The RP Delay was designed for dependable operation and optimum performance in both normal and delay applications including continuous program delay, network program delay, normal recording, and normal playback.

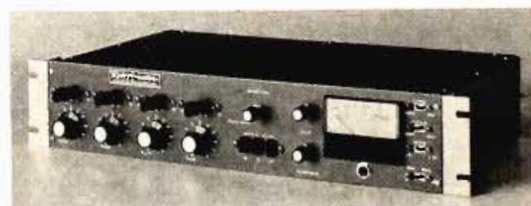


The use of a totally separate third head and amplifier for the delay playback means that the heads never alternate between record and play functions. No longer are there any compromises due to head switching. The RPD fills the need for a standard cartridge record/playback unit, yet with the turn of a switch is ready to act as a delay machine and provide the protection of a time lapse. **INTERNATIONAL TAPETRONICS CORP., 2425 S. MAIN ST., BLOOMINGTON, ILL. 61701.**

Circle No. 126

#### COMPACT AUDIO CONSOLE INTRODUCED BY BROADCAST ELECTRONICS

Broadcast Electronics, Inc. announces the introduction of a new, compact audio console. Designated as the Model 4BEV-50 "Versa Console," this new console is a versatile single channel mixer ideal for CATV, CCTV, film studios, commercial sound installations, dubbing facilities, and remote broadcast uses.



The Versa Console has four mixers and it accepts ten inputs — seven inputs being externally switchable for microphone or line level sources. All inputs are transformer coupled to IC pre-amplifiers. The mixers are long life sealed pots with cue detents. The Versa Console provides both a balanced 600 ohm line output and a high impedance PA output. An internal 1 kHz test oscillator supplies tone directly to the mixing bus to facilitate quick and accurate level adjustments.

Monitoring facilities in the Versa Console include a switchable VU meter, a separate FET muted cue amplifier and a speaker. There is also a front panel head-

phone jack switchable to either the program or cue circuits.

**BROADCAST ELECTRONICS, INC., 8810 BROOKVILLE RD., SILVER SPRINGS, MD 20910.**

Circle No. 127

#### THE "Z FORMAT" FROM CENTURY 21 PRODUCTIONS

Century 21 Productions has available the new "Z Format" for automated radio stations. The Z Format emphasizes current hit songs from the mainstream of today's most popular tastes, and is available in Adult Contemporary, or Mass Appeal Top 40.

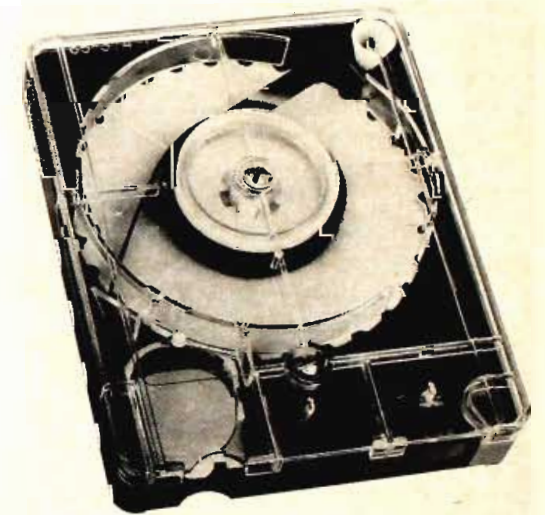
The Z Format features consultation by Dick Starr, audience demographics targeted to advertisers, localized announcer drop-ins, promotions to attract listeners at minimum expense, and identity. All the station adds is news, weather, public service, and commercials.

**CENTURY 21 PRODUCTIONS, 7263 ENVOY CT., DALLAS, TX 75247.**

Circle No. 128

#### "MASTER CART" UNVEILED BY FIDELIPAC

Fidelipac has introduced "Master Cart," a totally new automatic tape cartridge developed to assure performance, particularly for stereo operation.



Unlike any other cartridge now on the market, Master Cart's tape path past the machine heads and guides is controlled primarily by the cartridge machine. This neutrality of tape flow in the cartridge is assured by a completely new tape wind path plus precision molding of the cartridge case, hub and reel. Furthermore, performance is repeatable, not only each time the cartridge is used, but also from cartridge to cartridge. All the individual user need do is align his recorder/reproducer heads and guides to a single standard (easily accomplished with the various test tapes and gages previously developed by Fidelipac). An additional feature is a minimum of parts. This has been accomplished not only to assure superior cartridge performance but also for easier maintenance and reloading.





Designed for the critical stereo broadcasting needs of FM stations, Capitol's new A-2SP cartridge is 100 percent pre-screened for phasing reliability. All cartridges undergo critical performance testing for high frequency output, tension and azimuth and must check 100 percent against standard before shipment. Capitol then guarantees that every A-2SP will be  $\pm 90$  degrees phasing up to 12.5 kHz.

Correct phasing and azimuth are permanent with Capitol's new stereo-phase cartridge, even if the cartridge is dropped at the station. This is due to one-piece housing manufacture, an exclusive feature with Capitol Magnetic Products' new stereo-phase cartridge. Guides are fixed and immobile, molded as an integral part of the cartridge housing.

Another feature of Capitol's new A-2SP cartridge is that it eliminates all in-station adjustments. All cartridges arrive ready to use; no screw adjustments or test tone erasure are needed before broadcast use.

Capitol's new A-2SP cartridge is available in 20, 40, 70, 90 and 100 second lengths and in 2½, 3½, 4½, 5½, 7½, 10½ and 12 minute lengths.

CAPITOL MAGNETIC PRODUCTS, 1750 N. VINE ST., LOS ANGELES, CA 90028.

Circle No. 119

## ROCK RADIO GOES LIVE WITH AUTOMATION

The ProGramme Shoppe, a division of Alto Communications, Inc., announces the availability of their new "ROCK UNLIMITED" automation format.

"ROCK UNLIMITED" features 4 top name air personalities each doing a new show for every day of the week. The line-up includes Steve Lundy 5am-10am, Dave Prince 10am-2pm, Kris Erik Stevens 2pm-7pm, and Brian Cummings 7pm-12mid. Personalities customize local voice tracks, take requests, and play exclusive new records before the competition.

Jim Hampton, President of the ProGramme Shoppe, reported that three more stations, KUAD-FM-Windsor, Colorado; WWCT-FM-Peoria, Ill.; and KRIO-AM-McAllen, Texas, have signed on with the 24-hour-a-day format.

Hampton says that anyone who would like to listen to the format in actual oper-

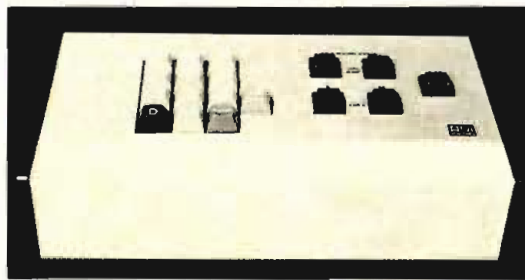
ation can call the "ROCK UNLIMITED" monitor lines: KUAD-FM, 303 686-7491; KRIO, 512 686-7851; and WWCT-FM, 309 674-1185.

THE PROGRAMME SHOPPE, 6362 HOLLYWOOD BLVD., HOLLYWOOD, CA 90028.

Circle No. 120

## ASI'S DIAL ACCESS TAPE CARTRIDGE CONTROL SYSTEM

ASI has introduced a revolutionary dial access tape cartridge computer control system that will allow the combo air man total control of all cartridge playing functions without ever having to actually handle the cartridges. The system utilizes the Control Design Corporation's



CD24R multiple cartridge player operated through a small scale computer control center. The computer is instructed via keyboard control panel as to the handling of the cartridges by the air man. All complex routing and switching operations are performed by the computer making user control of the overall system actually easier than operating individual cartridge machines in the studio. Through use of the system, the operator can call up any cartridge in up to 9 multi-plays in any sequence. He can pre-program multi-spot breaks in advance and start the playing sequence at the touch of a button.

Optional digital or CRT-type readout devices complete the system giving the operator constant visual indication of system operation.

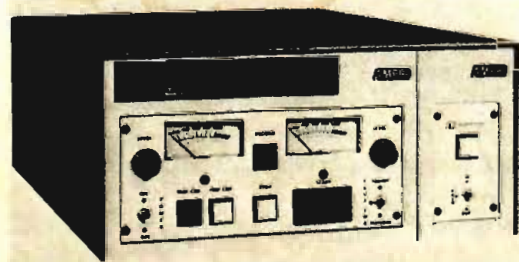
Another set of options even allows the keyboard and readouts to control the entire system at the studio from a remote broadcasting location using existing phone lines or radio links.

AUDIO SERVICES INC., 3140 E. JEFFERSON AVE., DETROIT, MICH. 48207.

Circle No. 121

## DOLBY NOISE REDUCTION SYSTEM FEATURED BY AMPRO

The Ampro Corp. has available their new Model CT3547DNR Automatic Tape Cartridge Recorder/Reproducer utilizing Dolby B Noise Reduction.



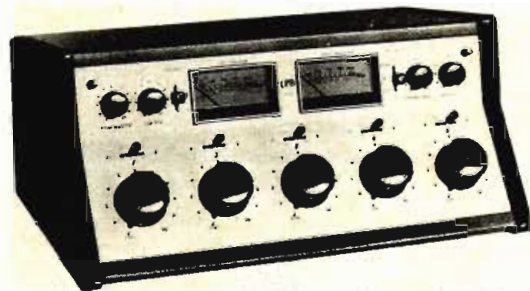
A high quality Ampro deck is combined with a side mounted encoder permitting suppression of signal-modulated noise effects and tape hiss an additional 9dB over Ampro's usual low S/N ratio. The units feature simultaneous encoding and decoding in record/reproduce equipment and automatic trip cue controlled switching of the noise reduction system to allow random intermixing of encoded and unencoded cartridges. The Dolby B module is also available separately to update other Ampro units.

AMPRO CORP., 2220 MAPLEWOOD AVE., WILLOW GROVE, PA 19090.

Circle No. 122

## LPB PRESENTS NEW 5 CHANNEL STEREO CONSOLE

The S-12, 5 channel stereo console features the same high standards of quality and flexibility as its larger 8 channel stereo counterpart. Daven step attenuators and Capitol telephone type lever switches are teamed with solid-state plug-in modules. Two stereo inputs are available to each of the 5 channel faders. Channels 1, 2 and 5 are readily switchable to either mono or stereo inputs. Stereo microphone



modules are supplied for channel 1 with the high-level input modules of channel 2 easily replaced with microphone input modules. An output selector switch allows the assignment of stereo outputs to any of three external loads. Muting and on-air light control relays are provided for channels 1 and 2, auxiliary contacts are provided for channels 3, 4 and 5 for control of turntables, cart machines, etc.

Priced at \$1,995.

LPB INC., 520 LINCOLN HIGHWAY, FRAZER, PA 19355.

Circle No. 123

## ELECTRO SOUND HIGH SPEED TAPE DUPLICATING SYSTEM FOR RADIO SYNDICATION PRODUCERS

A high-speed tape duplicating system designed specifically to fill the requirements of syndicated broadcast program producers, has been premiered by Electro Sound, Inc.

The Model ES-2001 is capable of taking 1¼", 7-1/2 or 15 ips masters and producing either 3-3/4, 7-1/2 or 15 ips copies. The system can be configured as master and from one to 10 slaves. The building-block design allows slaves to be added to a master and one slave until 10 slaves are on line. Both the master and slaves accommodate up to 14" NAB reels.

**A NEW RADIO SPECTACULAR FROM WATERMARK**



**6 Hours of Fun, Sun and Rock and Roll in the Golden State**

Now, a new audio adventure saluting the free-wheeling rock and roll life style that made the splash heard 'round the world. **THE CALIFORNIA SPECIAL** covers the great Southern California hits from 1960 through 1975 . . . all the unforgettable surf songs, car songs and girl songs. Along for the ride: the rock celebrities who made the music . . . like Brian Wilson, Mike Love, Jan Berry, Dean Torrance, Cher, Michelle Phillips, Rick Nelson, David Cassidy, Neil Young, Seals and Crofts, Lou Adler, Jimmy Webb, Alice Cooper, Cheech and Chong . . . interviewed in action, on location, all over the world. And every step of the way, we track the all-time California supergroup, The Beachboys. There's more to the incredible **CALIFORNIA SPECIAL** story — and it's yours to see and hear . . . free . . . in the complete presentation package. Send in the coupon and we'll have a gift-wrapped box of good vibrations on your desk in 10 days.

Produced & Directed by Ron Jacobs  
Written by Jerry Hopkins  
Narrated by John Stewart  
Original Music by Rick Kellis  
Researched by John Gibson  
Executive Producer Tom Rounds

**THE CALIFORNIA SPECIAL**  
Watermark, Inc.  
10700 Ventura Blvd.  
No. Hollywood, Calif. 91604  
(213) 980-9490

**THE CALIFORNIA SPECIAL** sounds like The programming and sales blockbuster for the summer of '75 . . . and beyond. Please send free brochure, demo tape, price and market exclusivity info.

Name \_\_\_\_\_ Title \_\_\_\_\_  
Call Letters \_\_\_\_\_ Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

**THE CALIFORNIA SPECIAL: 6 hours of great radio, including 72 commercial or news minutes. Delivered on compatible stereo LP's by WATERMARK, makers of THE ELVIS PRESLEY STORY, AMERICAN TOP 40 and AMERICAN COUNTRY COUNTDOWN.**

© 1975 WATERMARK, INC.

Master Cart will be generally available world-wide through Fidelipac Distributors approximately June 1, 1975. Lengths will include all standard "A" Cart lengths as well as empty. Pricing will be slightly above that of similar lengths in the Fidelipac Model 30 cartridges.  
**FIDELIPAC, 109 GAITHER DRIVE, MT. LAUREL, NJ 08057.**

Circle No. 129

### NEW COMMERCIAL PRODUCTION SERVICE FOR RADIO STATIONS

Don Elliot, Production Director of KKDJ, Los Angeles, formerly with KIIS and Drake-Chenault, has announced the opening of Don Elliot Creative Services.



Elliot (seated at control board in photo) greets KKDJ Program Director, Charlie Tuna, at recently constructed 4-track studio, where the new firm will specialize in the production of album spots and syndicated programming for the broadcast industry. Elliot reports that the company will strive to provide creative production combining punctuation and flow interwoven with an effective message, designed to leave an impression . . . rather than spots that sound like a newspaper ad read aloud with a drum and bugle behind it.

The firm will also offer creative production services to smaller stations who desire superior production, but don't have available the personnel or equipment. Interested stations should contact Don Elliot and discuss individual needs.  
**DON ELLIOT CREATIVE SERVICES, 3330 BARHAM BLVD., HOLLYWOOD, CA 90068.**

Circle No. 130

### MINIMAG II, A NEW LOW COST SYNCHRONIZER EMPLOYS SMPTE STANDARD CODE\*

A new SMPTE Standard Time and Control Code\* Synchronizer/Code Generator, named Minimag II, is being marketed by Automated Processes, Inc., 80 Marcus Drive, Melville, NY 11746. Priced at only \$4950, the new unit is said by the company to be less than half the cost of comparable SMPTE Standard Time and Control Code\* Synchronizers.



Minimag II is a second-generation de-

sign that incorporates every essential function for automatically synchronizing and interlocking any two audio or video multi-track tape machines. It is recommended for audio "sweetening," for simulcasting TV and stereo FM, for remote overdub recording, and for combining an audio mix with a visual medium.

The SMPTE Standard Time and Control Code\* generated by Minimag II is recorded on both the master and the slave units. This can be done before, or at the same time as, program material is recorded. The synchronizer will then automatically compare the code played back from the slave tape with the code on the master tape, and issue a capstan control signal to lock both tapes in perfect sync. Tape machines designed for DC servo operation are controlled directly; synchronous motor machines are controlled through an optional capstan drive amplifier.

\*American National Standard Time and Control Code, C 98.12-1975.  
**AUTOMATED PROCESSES, INC., 80 MARCUS DR., MELVILLE, NY 11746.**

Circle No. 131

### NEW EMERGENCY BROADCAST SYSTEM FROM TFT

In response to the new FCC regulations for Emergency Broadcasting, Time and Frequency Technology, Inc. has developed an all new EBS broadcast system. The TFT Model 760 system consists of independent modules: a two-tone EBS generator, a two-tone EBS decoder and a receiver which can be either AM frequency synthesized or FM fixed-tuned. These modules are available as a total EBS system package or may be purchased separately, depending on individual requirements.



The TFT two-tone generator produces the required 853 and 960 Hz tones simultaneously with an accuracy of  $\pm 0.25$  Hz. This stability is accomplished by synthesizing the tones from a crystal oscillator.

The tone decoder may be used with the TFT AM receiver or FM receiver or any audio source having the EBS two-tone signal at 200 MV RMS or greater. Advanced phase-locked-loop decoders are used to achieve narrow bandwidth. A signal averaging circuit provides a 10-second delay and prevents false turn-on.

Additional features of the TFT 760 EBS System include automatic program intercept, internal generator/decoder testing, a contact closure for external alarm and adaptability to remote control.  
**TIME & FREQUENCY TECHNOLOGY, 3000 OLCOTT ST., SANTA CLARA, CA 95051.**

Circle No. 132

# Classified

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Circle No. 133

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Circle No. 134

Don Elliot, ex: K-100, KIIS P.D., and Drake contest production man, announces:

### DON ELLIOT CREATIVE SERVICES

- Commercial Production
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  - Contests
  - Full Studio Facilities

"Don Elliot is a one-man production band" — Robert W. Morgan

"I hired him, didn't I?" — Charlie Tuna

"Simply, the best" — Bill Watson, ex: RKO, K100

"Fastest blade in the west" — Gary Price, GM, KDAY

"...Superb..." — Pat Shaughnessy, GM, K100.

### DON ELLIOT CREATIVE SERVICES

**3330 Barham Boulevard**  
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**(213) 851-SPOT**

Circle No. 136

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PHONE FUN & MUSIC

or "Dial-a-Dog" as it's sometimes called. Dave attempts to match some of the strangest people for dates on this fast moving, weekly all-odds show!!!!

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Circle No. 135

BP&P

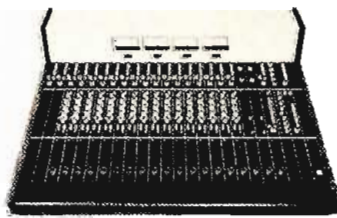
# NUMBER ONE



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26 mixing positions



GRANDSON 36 inputs  
18 mixing positions

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