

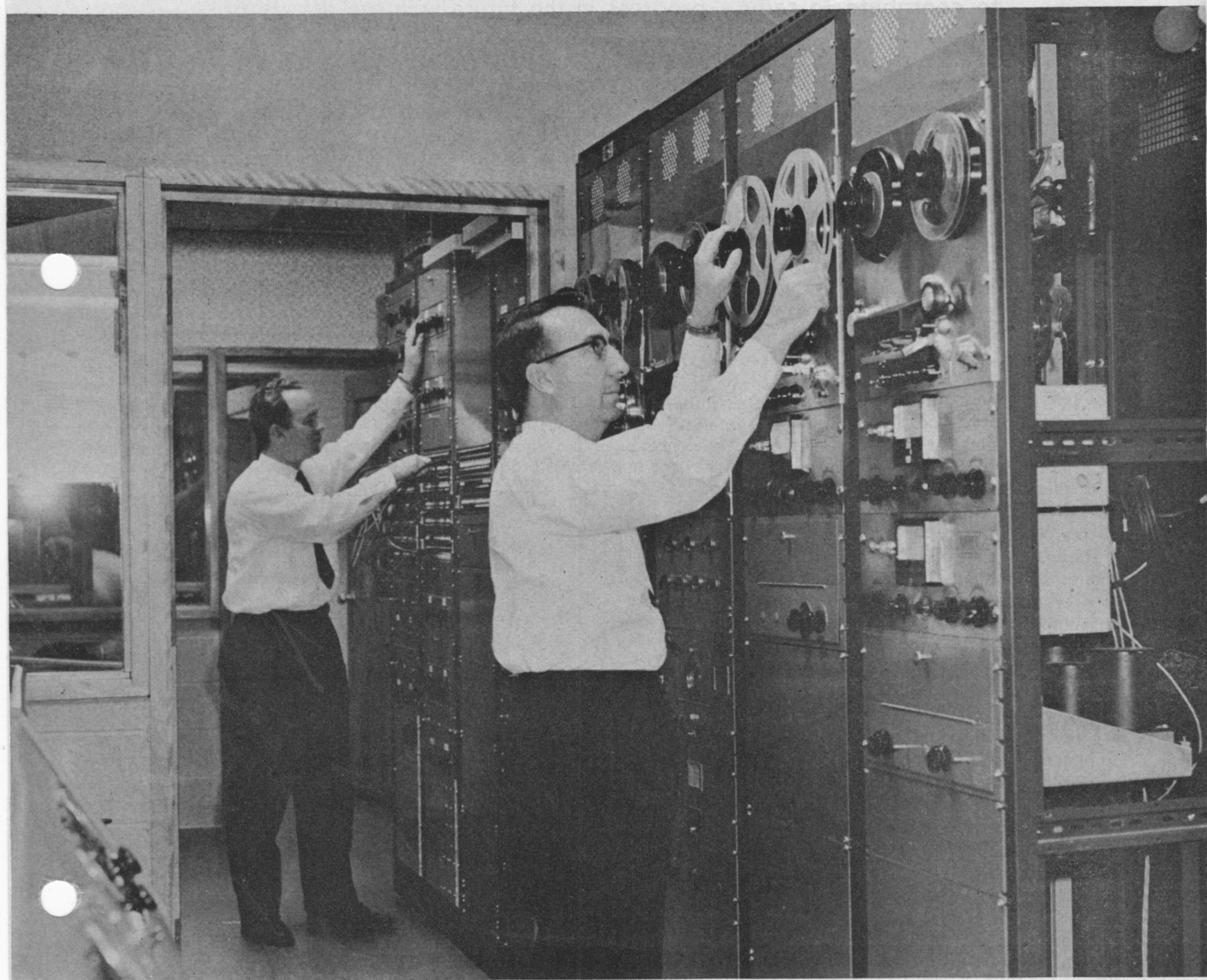
JANUARY, 1960

Covering all  
phases of...

**A  
FM  
TV**

# **BROADCAST ENGINEERING**

THE TECHNICAL JOURNAL OF THE BROADCAST INDUSTRY



**PHOTOGRAPH OF KOA'S RECORDING ROOM — TAPE GROWS IN USE BY BROADCASTERS**

# THE ROLE OF TAPE IN RADIO'S RISE

Magnetic Tape has been an important factor in radio's growth and will continue to contribute to radio's progress in the future with the growth of stereophonic broadcasting and other new techniques.

**R**EMEMBER those predictions about radio? How it would lie down and fold its hands helplessly before the on-rushing tide of television?

Well, it didn't happen, did it?

On the contrary, radio broadcasters are doing quite well for themselves these days. Quite well, indeed.

There are more stations on the air than ever before. And these stations are broadcasting for more hours a day than ever before. The nation has more clear channel stations; it seems that everyone is increasing his transmitter power.

Radio, as they say, goes everywhere. Its audience is everywhere—in every room of the home, in the automobile, at the ball game, on the beach. With the advent of more good music programs, including stereophonic presentations, entire new listening groups are being opened up to the radio broadcaster. Radio's audience, instead of decreasing, has mounted steadily. As a communication medium, radio now enjoys unprecedented importance.

Along with this surging to new importance, however, has developed a serious shortage of qualified personnel to staff the increasing number of stations and their expansion of programming days.

How are stations taking up the slack?

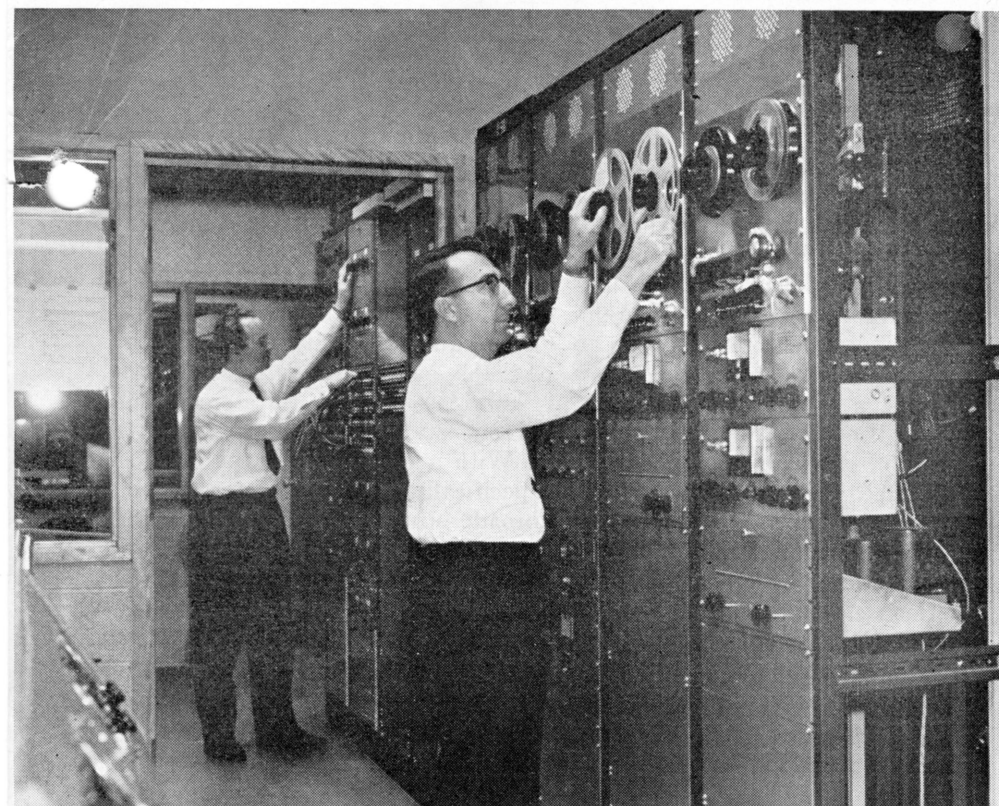
The answer is in tape.

When a station needs five qualified people and has only three, it depends on its professional tape record-

ing equipment to "spread the staff," provide a variety of voices, record programs on weekdays and play them back nights or weekends, keep the station on the air more hours per week without going to overtime for

Don Roberts, KOA (Denver) personality, starts one of the station's recorders. As part of its continuous recorder operation, the station has two recorders in the announcer's booth. While one is on playback, the other is loaded and cued. This provides split-second program timing.





James F. Zimmerle (left), KOA engineer, patches in the network while Jay F. Graves, radio engineering supervisor, threads up one of the recorders which provide continuous service in recording and playing back the net.

the staff, make it convenient for outside participants to appear on programs, provide remote broadcasts at little expense, sell more time by offering sponsors any announcer at any time, build station audience by adding variety and interest, cut costly errors by checking copy at time of reading.

According to a survey conducted recently by Ampex Corp., stations are using their professional tape recorders as much as 50 hours a week for local program delay, plus as many as 120 spots a week.

A station in Illinois reported it keeps its professional recorders in operation continuously from 6 a.m. to 6:30 p.m. every day. And WIS (Columbia, S. C.) runs its professional recorders 12 hours a day.

The five Ampex recorders at WKRC (Cincinnati) provide a continuous FM music system from 10 a.m. to midnight daily. The fully-automated equipment also throws in voice announcements. The professional recorders at KTTN (Trenton, Mo.) run 13 hours a day.

Percy Kuhn, chief engineer for WJPR (Greenville, Miss.), said he uses his professional tape recorders all day long. "The only time we don't use them is when we go on net-

work, which is very seldom," he said. "They run on the average of about 15 hours a day."

Elmer Nelson is chief engineer at KOTA (Rapid City, N. D.) where seven Ampex units are in operation.

"A lot of our network stuff is delayed," he reported. "So we have the recorders in almost constant use, from 6 a.m. until fairly late at night."

KWJJ (Portland, Ore.) uses one of its Ampex machines for delaying the network (ABC) one hour during the daylight saving period. By arrangement of a looping mechanism, it runs 24 hours a day.

"We record the net on it and then, an hour later, we play it off," chief recording engineer Bill Rohrer reported. "We have the recorder arranged to erase the tape after it has played back its content and it records the new net right away." With a one-hour loop arrangement, KWJJ can do this continuously for an indefinite period. The recorder runs 24 hours a day.

As a part of its survey, Ampex sought information on how its professional tape recorders were holding up under such continuous heavy use. The station engineers were unanimous in their opinion that only the

professional broadcast tape recorder can meet such operational demands.

Why is this true? Dependability of the equipment is essential. Many of the stations operate without having a second recorder for backup.

Furthermore, the simplicity of the operation of the professional tape recorder is important. In today's radio station, the recorder is operated by several different individuals, often non-technical in their training. The professional tape recorder is easy to load and once loaded, it's a case of simple push-button operation.

Ruggedness also is a factor. Stations often use the recorder in a combination of studio and rough field applications. The recorder must withstand adverse climatic conditions, heat, humidity, dampness, etc.

Not to be overlooked, of course, is the matter of economy. Years of experience have proved that the fully professional recorder costs far less per hour of operation. This results from reduced maintenance, longer practical life, more accurate program timing and far higher reliability.

WFAA (Dallas) told Ampex that its 24 professional recorders do not average an hour of maintenance time per machine per month.

When asked how many hours a month the professional machines at WKRC are down for maintenance, Dore Frantz, chief engineer at the Cincinnati station, replied: "Practically none."

WJPR reported its maintenance of Ampex machines consists of cleaning the heads, checking the tubes and oiling the motors on a routine basis.

KOTA's Elmer Nelson said his staff has no maintenance worries with the professional recorders. "We watch the lubrication carefully and clean the heads about once a week. We find if they're checked on at least once a month, we have no trouble."

With widespread installation of fully professional equipment will come complete realization of the potentials for radio programming with tape.

There is great promise of commercial program production on a syndicated basis to supplement or substitute for network program service be-

cause of the increasing competition in broadcasting.

And now the advent of stereophonic radio opens up whole new audiences for night-time radio.

Consider the influence stereo broadcasts can have on night-time revenues. Stereophonic sound in the home is getting a tremendous lift from our major recording companies. There is a veritable deluge of selections in stereo.

Listeners soon realize that stereo broadcasts can scarcely be regarded as "background" music. It is entertainment. The enjoyment of stereo is reserved for those hours when attentive listening is possible. Stereophonic radio performs primarily a

service for the evening hours and the weekend.

The radio station will inherit the role of auditioner of new stereophonic releases. Along with the routine activity of dispensing commercially-recorded music, the stations will discover a need for a programming service which enables them to offer one-time-only stereophonic programs designed specially for radio.

Does this mean tape networking is just around the corner? Undoubtedly. Other than the commercial releases themselves, radio stations will find no better source of stereo programming than the tapes they generate themselves or trade with neighboring stations or obtain through a tape syndicate.

Cost of renting dual audio lines to get programs from a network origination point definitely discourages use of interconnection. So does the technical difficulty of obtaining two identically-matched lines for best stereo rendition. A syndication system will reach full strength through its unique suitability and feasibility for the one-time-only type of programming service in stereophonic broadcasts.

With a professional tape recorder specifically built for stereophonic broadcasting any station can convert to stereo at any time, using the AM-FM, TV-AM or any of the multiplexing systems. Quality of the playback and broadcast will be the finest available.



## AUDIO PRODUCTS DIVISION

*Ampex Professional Products Company*

934 Charter Street

• Redwood City, Calif.