Magnecord Ink

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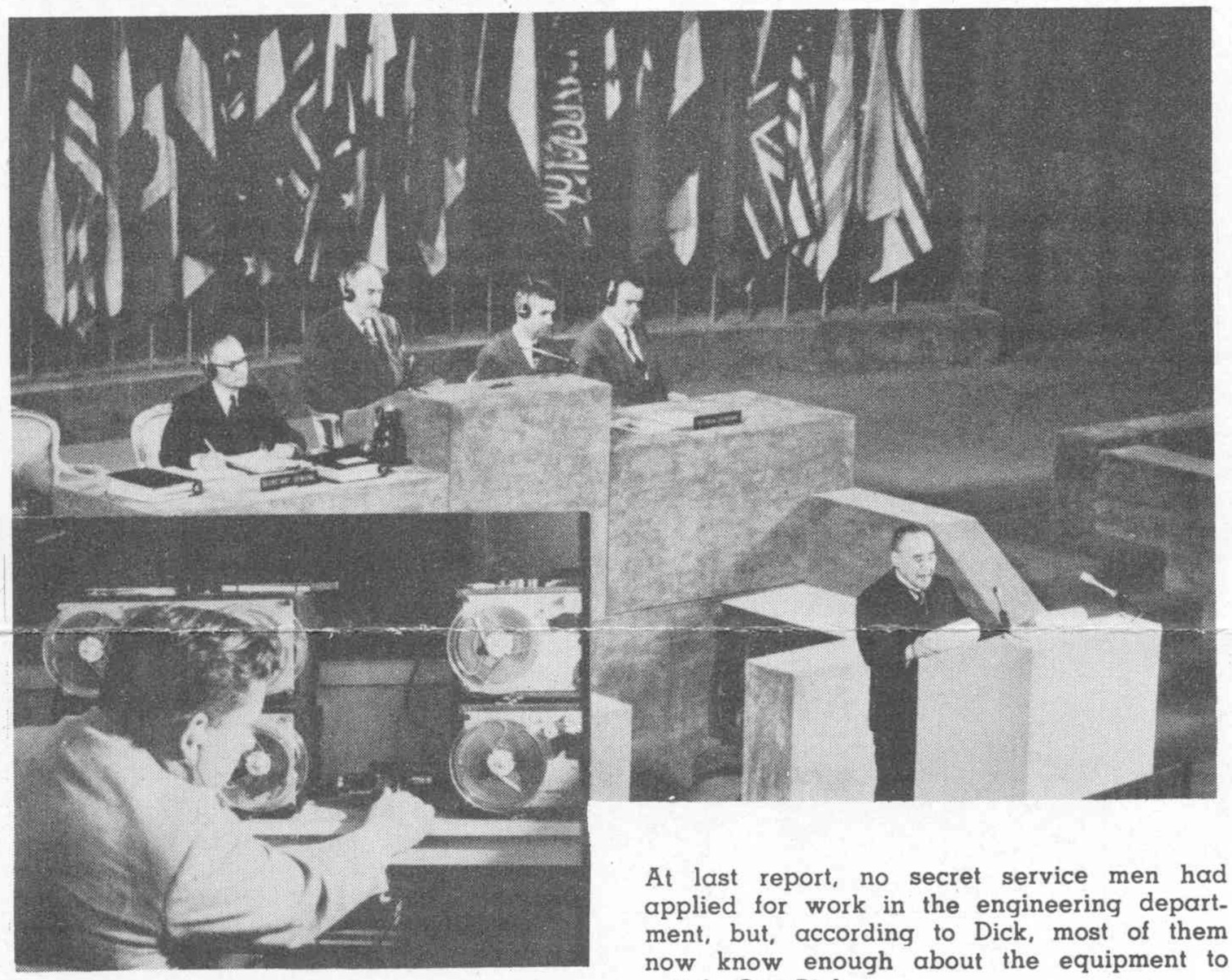


MAGNECORD TAPES HISTORY AT TREATY CONFERENCE

Leave it to Magnecord!

During the recent Japanese Peace Treaty Conference in San Francisco, the greatest precautions were taken to insure the safety of President Truman, the delegates and dignitaries, and guarantee a smooth-working, safe atmosphere for the historic event.

Military Police lined the approaches to the War Memorial Opera House for blocks in every direction, and everyone entering the building itself had to pass between files of secret service men at the entrances. These hundreds of watchers might just as well have "stood in bed," if it hadn't been for Dick McQueen, Magnecord advertising manager.

Dick, carrying a paper bag full of spare parts, provided the only threat to safety and security. He showed several special identification cards, and explained the principles and function of recording heads, capstans, and rollers to more than a dozen security guardians before he was allowed entrance.

At last report, no secret service men had applied for work in the engineering department, but, according to Dick, most of them now know enough about the equipment to satisfy Otto Bixler.

Magnecorders, you see, were there. From San Francisco Mayor Ermer Robinsons' first words of welcome to the formal closing of the meeting by Secretary of State Dean Acheson, the entire September 4-8 meeting was recorded in four languages by Magnecord staff and representatives.

The job was done at the request of Earl G. Millison, chief of the State Department's graphics and special services branch. Original plans had called for recording only speeches directly from the floor. Later it became apparent that the interpretations would also have to be recorded, and a hurry-up call was put in to Magnecord.

Six PT6-AHs and three PT6-Js with PT6-Ts for constant recording were supplied by Magnecord, and operated by McQueen, and Don Kestell and Rudy Poucher of Neeley Enterprises, West Coast representatives.

The equipment was enclosed in a booth off the center aisle at the extreme rear of the main floor. One unit was fed directly from the rostrum microphone, and the others hooked to the translator's booth also in the rear of the auditorium. Translations into English, Spanish, French and Russian were recorded.

EXPAND ENGINEERING PERSONNEL AND SPACE

In another step in its long range expansion program, Magnecord has established a new engineering development laboratory in Chicago. More than 10,000 additional square feet have been obtained and devoted to development of standard equipment and specialized research. The engineering, model-making, drafting and experimental laboratory departments are housed in the new quarters at 233 West Erie street

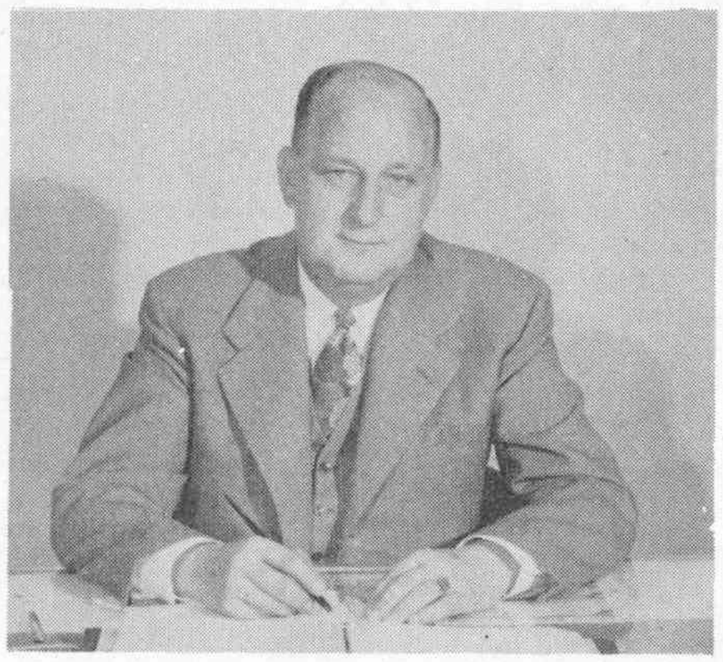
In announcing the acquisition of the new facilities, John S. Boyers, president, also announced the appointment of a new director of engineering, four additions to the engineering staff, and formation of a new department.

New director of engineering is Otto C. Bixler. Prior to joining Magnecord, Mr. Bixler was electrical development engineer for Airesearch Manufacturing Co. on aircraft and guided missile applications of special electronic equipment. Before this he was in Western Electric's electrical products research division as systems engineer on electronic equipment. There he developed the first professional magnetic recording system sold to a major motion picture studio.

Prior to this Bixler was engaged in engineering cost and valuation work for the Southern California Edison Co. Ltd. He received his electrical engineering degree with honors from the University of Southern California.

(Continued on Page 4)

OTTO BIXLER



ARMIN P. BUETOW NAMED EXECUTIVE V-PRESIDENT

Armin P. Buetow, general manager of Magnecord, has been named executive vice president of the organization. The appointment was voted at a recent meeting of the board of directors.

Buetow joined Magnecord January 15, 1951. Prior to this, he was a partner from 1947 in the firm of Richardson, Buetow and Morgan, business consultants of Alhambra, California.

From 1942 to 1947, he was comptroller and later treasurer of Toolcraft Manufacturing Company, Huntington Park, California. Buetow graduated from the University of Minnesota in 1932, and from 1932 to 1942 was an auditor for Investors Syndicate of Minneapolis and Los Angeles.

ESTABLISH COMPLETE STATION FOR WEST COAST SERVICING

To facilitate servicing of its tape recording units, Magnecord has established a "Service Station" on the West Coast under the direction of Harry Fetig, a 20-year veteran in the electronic servicing field.

The approved station, Manufacturers Electronic Service, Santa Monica, California, is equipped with all test equipment used at the Magnecord factory in Chicago, and a complete parts service is maintained as a part of the repair and replacement service.

Fetig is an electrical engineering graduate of the University of Iowa, and worked for Wagner Electric Co., Western Electric Co., and Altec Service Corp.

Magnecord In Action!

Since the start of World War II electronics has played a vital part in the history of the United States. One of its jobs has been to bring the fighting front to the home front and enable millions to obtain first-hand accounts of what is happening in the world hundreds of miles away soon after it has happened.

In this respect MAGNECORD INC., manufacturers of high fidelity professional tape recorders proudly points to a MAGNECORDER that has seen service everywhere from the Berlin Airlift through to the Korean conflict.

The MAGNECORDER was originally purchased by the United States Air Force for coverage of the Berlin Airlift in 1949. It was used by Air Force reporters in Weisbaden and later it was moved to Berlin where it was used extensively at Tempelhof Airdrome to record and report on Airlift activities. These recordings were heard on Air Force broadcast shows in the United States and much of the material gathered was also used for broadcast by Radio Berlin.

Following the Air Lift the Air Force band used the recorder extensively in taping its various performances and returned these recordings to the United States for Air Force radio shows. While with the band, the recorder toured the entire European theater and then went twice around the world with an Air Force combat recorder team. This combat reporting team consisted of three men: reporter, radio engineer, and script writer. They provided general coverage of Air Force activities in all areas of the world.

This MAGNECORDER was the fist tape recorder used by the Air Force in covering the outbreak of the Korean war, especially front-line action in the field. The reports and interviews of armed forces personnel and statesmen were returned to the United States through Northwest Airline Courier Service from Tokyo to Washington, D.C. There, in Air Force Public Relations headquarters, the material was screened and edited. The best was offered to broadcast networks and the front line news has been aired extensively by famous newscasters. Meanwhile, master recordings were turned over to the Air Force recording studio at Bolling Field where tape copies or discs were made for use on Air Force radio shows.

During the recent three-day West Coast Electronic Manufacturers Association show in San Francisco's Civic Auditorium, the MAGNECORDER that has toured the world received its own battle scars and earned its "medals" and is still providing dependable service to its country, was put into service once more . . . providing the electronics industry with an "on-the-spot" bit of history from the Berlin Airlift on through the Korean war.

Wisconsin Society Magnecords State History

The Wisconsin State Historical Society has adopted a relatively new technique in chronicling history—Magnecording individuals intimately concerned with important State events and developments. The first oral history project will record the development of industry in Milwaukee, beginning with the tanning industry. If the project is successful, the same technique will be used in other fields and industries.

Director Clifford Lord summed up the reasons and need for using tape recordings in a preliminary report on the project: "the historian of the twentieth century is confronted either with a scarcity of material on important decisions and events, or with an overwhelming volume of documentation.

"This modern age with its ease of communication has produced an unsatisfactorily small volume of intimate correspondence, memoranda, and memoirs which have been a key part in the traditional documentation for research study. The "why" and "how" of important conferences and major decisions too often are not fully described.

"On the other hand, the development of movements and agencies has been attended with such vast accumulations of paper matter that separation of the important threads may tax human ingenuity. For both these extremes the oral history research technique provides incalculably valuable service.

"The field of business history, and specifically the tanning industry in Milwaukee, were picked as the subjects for the pilot study of the oral history project because little original source material—statistical data, manuscripts, records, etc.—has been accumulated to date. This is especially true of businesses and industries below the level of the nation's largest firms and institutions.

"Yet, the development of these smaller businesses and industries and their impact on the economy and political and cultural institutions of their community and state is vitally important in reconstructing a picture of our past."

The intensive use of tape recordings to chronicle history has been pioneered by Columbia University. For the past four years, the University has been interviewing important people, concentrating mainly on political and social history. However, the Wisconsin group's project is believed to be the first attempt at recording the history of a manufacturing industry by tape.

The Wisconsin project is being financed by a grant from the Committee on Studies in American Civilization, a joint venture of the Society and University of Wisconsin established in 1946 with Rockefeller Foundation funds.

TAPE TALK ON

Binaural Recording

Development of the first binaural recording unit by Magnecord has been widely heralded in trade publications and enthusiastically welcomed by everyone who realizes the potentialities and possibilities of this development. But, what is it?

Binaural recording has been described as the "third dimension" of sound. It is multichannel recording to give depth and spatial presence in recorded sound. Its name "binaural" refers directly to *"two ear"* reproduction as compared with the *"one ear"* effect gained from present recording methods and equipment.

Actually, there is nothing new in binaural reproduction. Its principle has been developed and understood for the past 20 years. The first modern experiments were conducted by the Bell Telephone System Laboratories prior to 1930. These were not attempts at recording, but rather experiments wherein sound was transmitted several miles and reproduced in dual earphones.

By 1934, these experiments had advanced to a point where the Bell System engineers actually gave public demonstrations of a stereophonic program transmission system, and allowed an orchestra playing in Philadelphia to be heard with startling realism in Washington, D.C.

What *is* new about the Magnecord unit, is that it is the first simple, portable, binaural recording unit available to the commercial market—mass produced, reasonably priced, and not requiring technical training or special ability for operation.

The Magnecord unit utilizes two channels to achieve third dimensional reproduction. Sound is picked up by two microphones and fed through the amplifier unit to the mechanical unit. Both channels are recorded simultaneously on separate tracks side by side on standard ¼" recording tape.

The binaural amplifier unit contains two separate, amplifier channels in a single portable carrying case. It may be used for either dual-channel recording or playback at the flick of a switch. A single low impedance microphone input is provided for each channel, and may be modified for line or bridge use by means of simple resistive pads.

Each channel is provided with a 10 watt output stage, and a balanced, zero level line connection. There are 2 VU meters mounted side by side which permit accurate gain-riding as well as rapid inter-channel level comparison. The integral loudspeaker is intended only for use in circuit checking, and is provided with a fader type volume control, permitting it to be bridged across the output of either amplifier.

A unique feature of the amplifier is a calibration button which feeds a signal to both channels so that a reference level signal may be recorded at any time. This allows the maintenance of accurate interchannel gain relationships.

There is an individual gain control on each channel plus a unit which controls both channels simultaneously. Complete recording equalization is furnished in the amplifier, and may be adjusted for 7½" or 15" per second recording by a front panel switch.

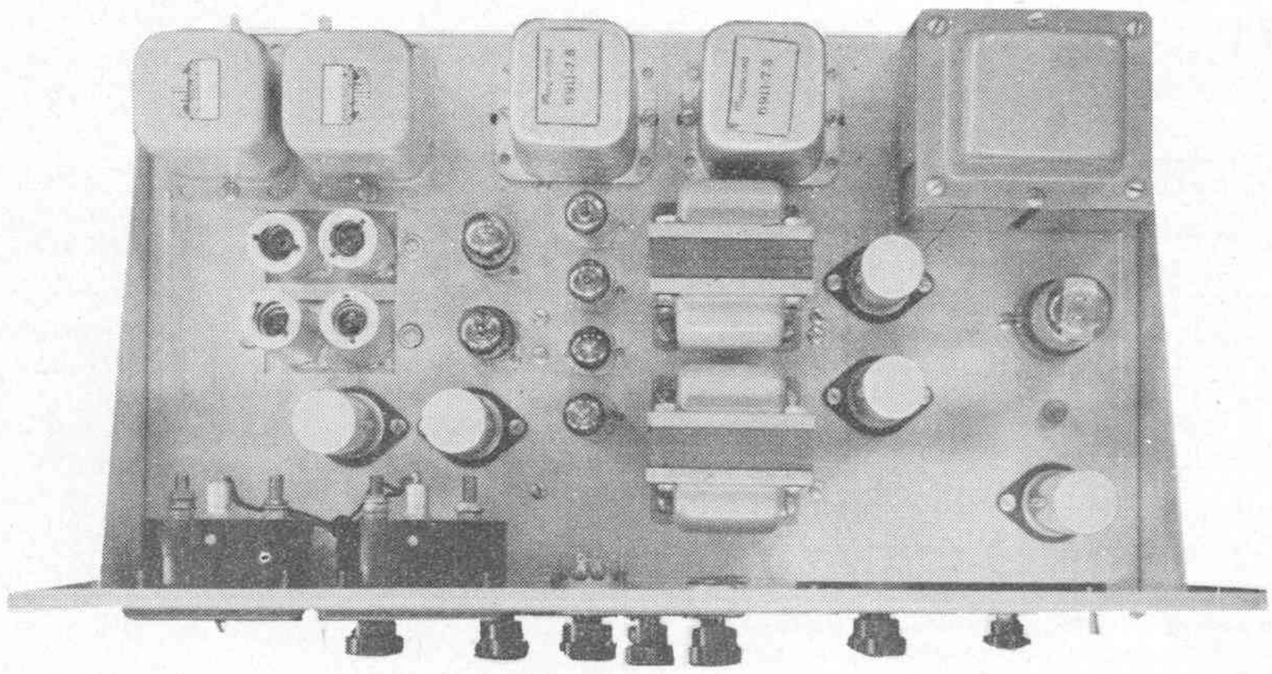
To adapt present standard Magnecorders now in service, a binaural recording head may be inserted in the mechanical unit of any machine in the PT6, PT63, or PT7 series. A simple adjustment in the wiring arrangement completes the conversion of the mechanical unit. Where an individual already owns a standard amplifier, a second similar amplifier unit may be added, and the two amplifiers can then be utilized together for binaural recording or reproduction.

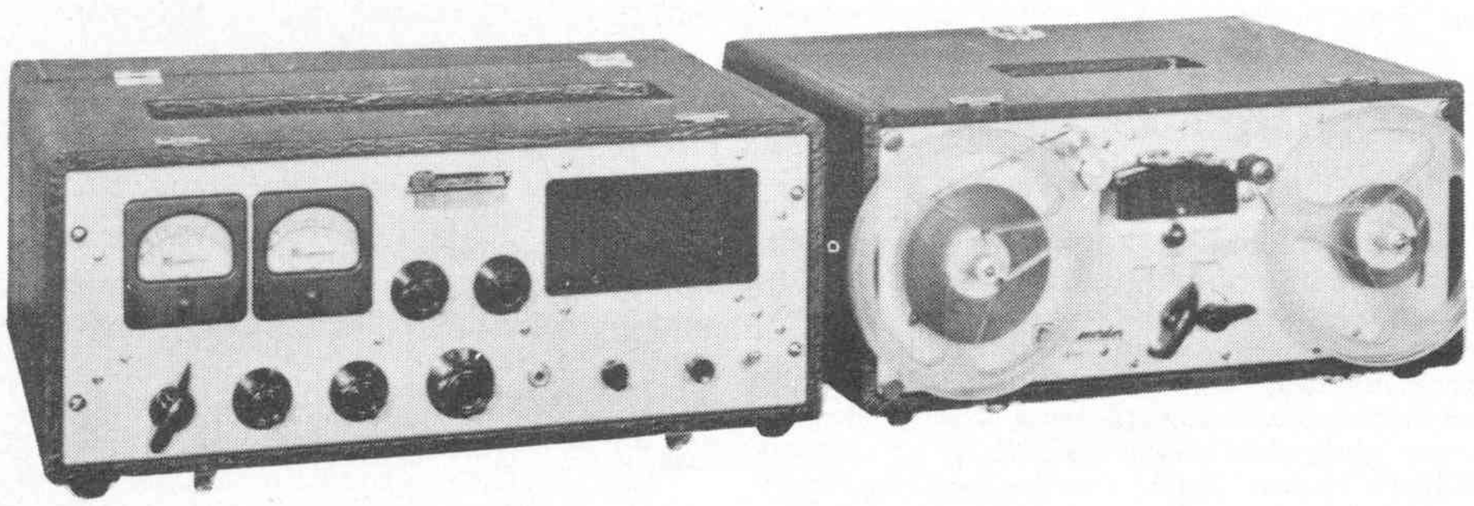
For best results, two identical, quality microphones should be used. The matter of spacing is controversial. For binaural headphone reproduction, best results are obtained by placing the microphones so that their position and characteristics simulate the characteristics of human ears. Microphones having little directivity have been used, spaced at about 15" separation and pointing slightly outward.

The situation when recording for loudspeaker reproduction is somewhat more complex. Acoustics of the recording and reproducing rooms, and speaker placement enter into microphone placement. Microphone types also affect both microphone and speaker position. Most experimenters in binaural work have selected different placement, and, for best results, it would seem that individual experimentation should be conducted.

The binaural recording system may be used to play standard tape, or for recording tape designed for playback on either full track or half track machines. This is accomplished by turning the gain down completely on either of the two channels to provide single-channel operation.

Another important use of the binaural unit is in dual-channel recording, where there is a need for recording two separate functions simultaneously. Thus, the output of a system under test may be recorded on one channel of the tape while a commentary or description of the experiment is recorded on the second. Similarly, a time signal might be imposed on one of the two channels.





Binaural recording permits a person to perceive the "depth" of the actual sound sources, and also has wide applications in various professional fields. Because a person's ears are selective and can be focused on a particular sound it enables the listener to eliminate what he does NOT wish to hear and concentrate on a particular conversation, instrument, or noise (as in the case of scientific research) which he desires to listen to.

This provides a new and helpful instrument for:

BUSINESS AND INDUSTRY—group conference and factory recording where noise is present. Probably the leading commercial use of the binaural principle is that of conference recording.

In research in vibration, noise and multisound phenomena binaural presents a spatial "presence" for locating stparate sounds.

EDUCATION—the critical analysis of performance. In the field of education binaural sound recording has come into varied and dynamic usage for music, speech correction, dramatics courses, and discussion groups. For example, an orchestra or choir director as well as drama teacher may be absent from the rehearsal period and the group led by a student. Upon listening to the binaural recording of the session the director or teacher is able to determine the practice measures necessary since he is actually able to "locate" the student or group who need instruction.

MUSICIANS—startling realism in recordings, duplicating the actual performance. Music recorded with the binaural system is reproduced with a naturalness never before available. The binaural method has been used with a great deal of success by leaders of large band and choral groups to locate minute flaws and errors in the musical presentations.

HOME MARKET—Audiophiles who strive for perfection of sound reproduction.

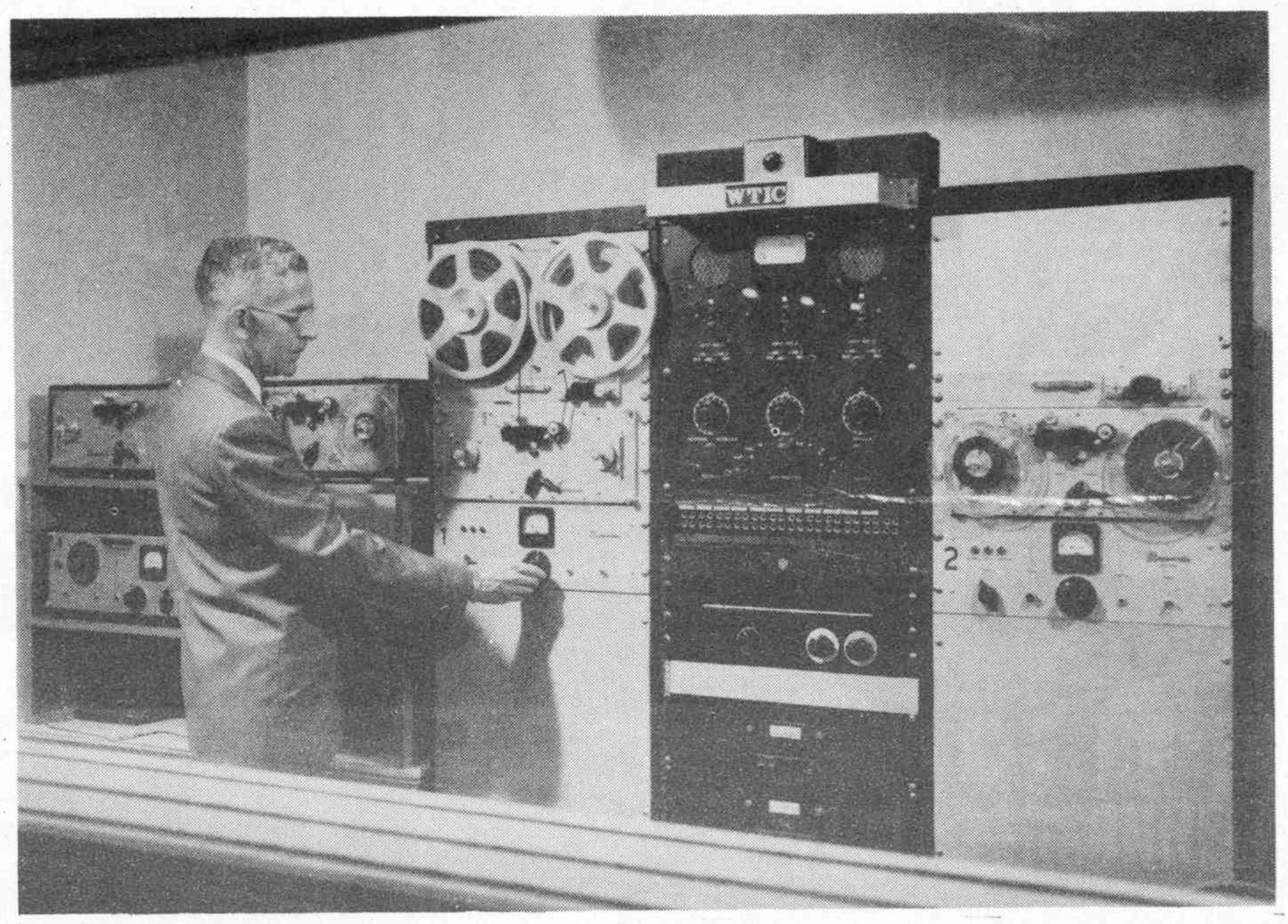
HARTFORD STATION FINDS MANY USES FOR MAGNECORDERS

One of the most common expressions amongst engineers at radio station WTIC at Hartford, Conn., is "imagine trying to do this recording job the old way."

It started soon after the purchase of three Magnecorders in 1949 by the 50-kilowatt station. They bought one PT6-AP three-channel mixer recorder and two PT6-AR rack-mounted recorders. Since that initial purchase three MAGNECORD combinations PT6-JAH's have been added to the station's equipment.

WTIC's MAGNECORDERS are used for every type of work. Engineers at the station claim the advantages of tape over disc recording from points of economy, portability, editing and equalizing, never cease to be a subject of comment. In a period of eight months, it has been estimated by the engineers that four of the MAGNECORDERS paid for themselves in savings on discs. As one example of economy effected, it had been a practice for years to disc-record NBC's 8 a.m. news roundup for delayed broadcast at 8:15. This called for at least 156 sixteen-inch discs annually at a cost of well over $400. Now, two rolls of tape (two PT6-AR machines are used for daily operations) do the job over and over again for the whole year.

WTIC's tape recording studio contains two PT6-AR's with a PT6-M spooling mechanism over one of them for handling 2400-foot spools of tape. Also mounted on the three racks in the studio is a monitoring amplifier for an overhead speaker which can be switched to the input of any of the studio-recorders or to a fourth position designated as P-M. A switch connected to the P-M position selects either the output of the tape machines or low-level program from Master Control.



WTIC's tape-recording studio, showing two rack-mounted and two portable Magnecord units. At controls is Fred Edwards, WTIC maintenance engineer. The station has two additional rack-mounted units, one in Master Control and the other in disc-recording studio.

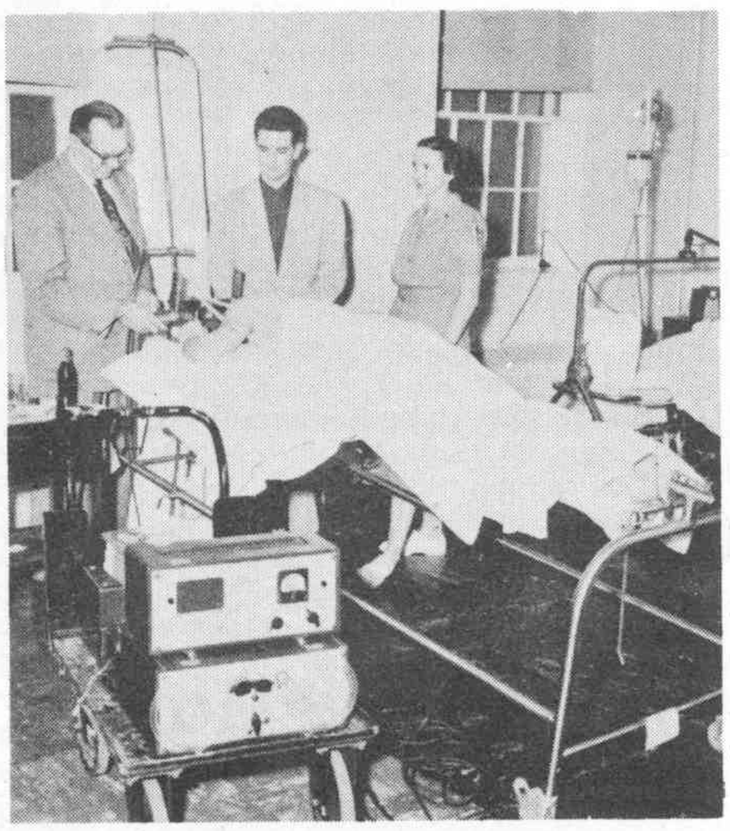
The tape recording studio also includes a third machine, a PT6-AP, for use in recording shows for delayed broadcast, such as half-hour programs delayed fifteen minutes. Since this calls for taping in ten-minute segments, the initial two segments are recorded on the rack-mounted machines, and the playback is begun on the first machine. The third segment is recorded then on the PT6-AP for playback on the first rack-mounted machine while the second segment is going out on the other. There are monitoring heads for the PT6-AR recorders and a small amplifier with selector switch to a small speaker mounted in the control panel. The inputs of the three recorders in the studio appear on a selector switch which can bridge the recorders across the WTIC bus or the NBC bus or either of two spare lines to Master Control. Included in the input wiring to the recorders are push-buttons and "On" and "Off" lights to indicate channel in use, and a switch to select either individual or interlock switching.

Therefore, it is possible to record continuously using either two or three machines or to record as many as three separate programs at one time. The outputs of the recorders are wired to Daven cue faders for cueing while on the air through another small amplifier and another small speaker also in the control panel. The output of the mixer system feeds a line amplifier. The output of this amplifier is fed through a 6 db isolation pad to the Master Control, and the relay which puts the studio on the WTIC bus.

WTIC Master Control room contains two MAGNECORDS (both PT6-JAH combinations), one mounted in a rack, the other in a case for both studio and remote use. WITC engineers built a four-channel mixer for the latter recorder. The station's sixth MAGNECORD is mounted in a rack in a newly-constructed disc-recording studio, for dubbing, editing and playback-on-the-air purposes.

VETERAN'S XMAS GREETINGS MAGNECORDED BY WHOP

WHOP, Hopkinsville, Ky., Magnecorded messages from wounded Korean veterans in Fort Campbell Hospital in cooperation with the American Red Cross. The messages were transferred to discs and forwarded them to the boys' parents as a personal Christmas greeting.



From left: F. Ernest Lackey, WHOP general manager; Jack Jones, WHOP program director; and, Miss Virginia Harvey, recreational director of Fort Campbell Hospital, Magnecord Christmas greeting from wounded Korean veteran.

Expand Engineering Personnel and Space

(Continued from Page 1)

John W. Hines is Magnecord's new sales engineer. Mr. Hines will do liaison work between the engineering and sales department and also handle technical service and sales problems. He has been in the electronics field for eight years, and prior to joining Magnecord was chief engineer for radio station WBVP, Beaver Falls, Pa. He has also been chief engineer for several other radio stations throughout the country.

Head of the newly formed special products department is Patrick J. McCauley. Before joining Magnecord in 1947 as an electrical engineer, Mr. McCauley was associated with Sound, Inc., in the engineering department. As an electronic specialist in the development engineering department of Magnecord, McCauley has been instrumental in the development of most of the company's amplifiers.

George C. Kent, former design engineer of the Revere Camera Co., has been named senior mechanical engineer. Prior to joining Revere, Mr. Kent was project engineer of Russell Electric Co. and assistant engineer at Hotpoint, Inc. Before and after service in the Army, he worked in the research department of the American Can Co. A native of Prague, Czechoslovokia, he received his M.E. degree at Ohio State University.

Newest edition to the engineering staff is William E. Daly, electrical development engineer. Previously, Mr. Daly was in magnetic recording head development with Shure Bros., Inc. After graduation from the University of Minnesota in 1947, he worked for Engineering Research Associates in St. Paul, on electronic computers.

It's A New Army

Even the bugler gets to sleep in the Army these days. According to a recent news note, reveille at Camp Rucker, Ala., is blared over a loudspeaker from a tape recording.

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