HALLICRAFTER USES MAGNECORD FOR SHOW

The photo above shows a Magnecorder installed in a custom installation designed by Hallicrafters and shown at the recent annual Furniture Market in Chicago.

Binaural Aids Muffler Sales Show

Sometimes a demonstration can be too good! In a way, that was the experience of the Walker Manufacturing Company's Walker-Michigan division of Jackson, Michigan, who used a Magnecord binaural recorder to demonstrate their industrial silencers at the Automotive Suppliers Institute last December in Atlantic City.

"We had originally purchased the equipment for our engineering department's use in experimental sound analysis work," wrote Mr. Robert W. Heath of the Walker Company. "However, the use of the binaural Magnecorder proved so valuable a sales and demonstration aid, that we are sending it out to regional shows and have ordered a second binaural unit for our engineering department."

The equipment was mounted behind a glass panel and six head sets were provided on two semi-circular benches. There were no seats and people were often standing two and three deep behind each head set to have the opportunity of hearing the display.

The recorded tape consisted of two 15-minute retaped programs at 15" per second on a 10" reel. The recording was comprised of product demonstration and music. These were interspersed on the tape with three minutes of product and one minute of music. The product demonstration was presented in the form of a trip through the Walker engineering laboratories. Different exhaust and muffler sounds and problems as well as a basic explanation of binaural sound were included.

"The binaural demonstration was the hit of the show," Heath continued. Queries came from distributors, other manufacturers and even advertising agencies representing other manufacturers. It generated a tremendous interest in our display, and gave a sound selling story. It also developed a great deal of prestige with our distributors who took pride in the presentation and the fact that we had utilized this new and improved research tool.

"As an indication of the demonstration's popularity, we cite the fact that we were unable to rewind the tape at the close of the show at five o'clock. Other booths in the Show would be practically empty, yet every night people were listening to the head sets at the last minute."

"At 5:30 PM the power was cut off from a central board and the entire show went dead except for emergency lights. We would not rewind the tape until the following morning when the master switch was again closed."

We'll Be There...

Magnecord will be in Sound Theatres 301-303 in the Grand Central Palace for the Institute of Radio Engineers show March 20-23 in New York. Stop in and see us and the new products we'll display!

Magnecord Sits Out Wild Binaural Storm

Binaural sound has become the latest storm center of the audio field. Recent issues of High Fidelity and Audio Engineering have been replete with articles on "three dimensional" hearing and reproduction. No audio publication or section is complete without some news of this "latest" development which Magnecord has developed and promoted for the past two years.

The universal acclaim of the binaural recording principles and standards set by Magnecord and the great satisfaction of audiophiles has forced competitors in both magnetic tape and disc recording fields to follow the Magnecord lead.

Actually, the storm broke several months ago. To get recognition of binaural sound, Magnecord promoted a number of binaural broadcasts. These were handled by both the company itself and its sales representatives and distributors. It wasn't long before broadcasting publications were swamped with letters from station managers claiming to have been the first to do these. People don't demand credit for anything less than an outstanding development.

Within the past few months, binaural discs and binaural disc players have appeared on the market, as well as several other magnetic tape recorders. One commonly to the field, has made an attempt to discredit Magnecord development and initiative in the binaural field by attacking the word "binaural" itself, and the "standards" of microphone placement.

Magnecord engineers have been, per force, close to the problem of microphone placement. Original theories have been changed as they were proven wrong by practice. Today they agree that there is no set formula for binaural microphone placement. This placement depends entirely on too many variables such as the size of the orchestral group, spacing of the group, tonal quality of the hall itself, and the method of playback (speakers or headphones).

Magnecord does not lay claim to "invention" of binaural sound. These principles have long been understood. It does not claim to have had a part in the first binaural broadcasts. It points only to the record which shows Magnecord engineers designed and developed the first commercially practical method of recording sound binaurally. Magnecord production made this binaural recording available.

Let it rain, let it rain, let it rain.
This system, which Colonial Williamsburg has made available to museums and other organizations, has some conspicuous advantages. It makes possible a dissolve-slide program with automatically synchronized narration and music. The program itself can be revised at any time by adding or subtracting slides and by removing or adding bloopers on the sound tape. There are never any breaks in the visual side of the program because one slide dissolves into the next. There are never any dead spots on the sound tape because the bloopers are on the back, rather than coated, side of the tape. Narrations for each slide do not have to be uniformly long; in the Colonial Williamsburg program, some slides have only three seconds of narrations and others as much as fifteen seconds.

The system also has some minor, but important, refinements. When one slide machine is projecting, the light on the other machine is out, thereby postponing "boring out" of slides. The photo-electric cell can be made more or less sensitive and the light shining through the bloopers can be intensified to adjust to the wearing out of the cell and to any changes in lighting in the projection room.

The Colonial Williamsburg Reception Center program currently uses 180 two-color slides synchronized with 1,100 feet of quarter-inch sound tape. This program is in two parts: "Prelude to Independence," which tells the story of the 18th century Williamsburg that helped shape the concept of a free and independent United States of America, and, "How to See Williamsburg."

The slide program ranges over the restored area of Williamsburg which today covers about three-quarters of a square mile and includes most of the historic landmarks of the 18th century. Colonial houses and buildings still standing have been stripped of later additions and restored to the 18th century beauty. Eighteenth century structures that had disappeared have been reconstructed on their original sites. The famous "green" gardens of colonial days have been re-
MAINTENANCE:
The PT6-A and PT63-A Basic Recorder Mechanism is ruggedly built to withstand conditions of storage and field use. Maintenance is of a minor nature and should the unit require any repairs due to accident or misuse, it should be returned to the distributor from whom it was purchased. When writing in regard to the unit, the type number, serial number, the date and from whom purchased should be mentioned.

ELECTRICAL:
The 12AU7 oscillator tube should be checked occasionally.

MECHANICAL:
All bearings in the PT6-A and PT63-A are either of the self-oiling type or the wick-fed type. The unit is properly lubricated before it leaves the factory. The unit is not required any further lubrication for at least six months.

MOTOR LUBRICATION:
The motors should be lubricated with a few drops of SAE 10 oil, every three to six months depending on the amount of use. All motors should be oiled at both front and rear.

The felt washers on the takeup and rewind clutch assembly are oiled at the factory, but two drops of fine sewing machine oil should be added.

The guide rollers should be disassembled once every three months by removing the small screw on the front. Remove all the parts, clean them with carbon tetrachloride, re-oil the felt wick, and reassemble.

The capstan and pressure roller must be kept free of dirt, and one drop of light oil should be applied to the pressure roller shaft after it has been cleaned with carbon tetrachloride every three months.

The takeup bearing assembly should be taken apart and the bearings repacked with grease once a year. The felt wicks on the front and rear of the capstan shaft should have the two drops of light oil every six months.

Note: It is imperative that no oil be allowed to accumulate on any of the rubber washers as it will cause slippage and impair tape speed regulation. A soft cloth moistened with carbon tetrachloride should be used to remove any oil from the idlers.

CLUTCH ADJUSTMENTS:
Tape tension is maintained by two friction clutches. Their correct adjustment causes the tape to move from one reel to the other in either direction without throwing or stalling. The clutches are located on the rear ends of the supply reel spindle and the take-up reel spindle. The supply reel spindle clutch is located at the right (facing the rear of the unit) and consists of an oiled felt washer pressing against a knurled disc which is free to rotate in a clockwise direction but prevented from turning in the opposite direction by a spring loaded pawl. Pressing against the opposite side of the felt washer is a sponge rubber pad. A split, knurled adjustment ring bears against the sponge rubber pad and is locked in place by means of a set screw. The set screw must be backed off before the adjustment ring can be turned. Rotating the adjusting ring clockwise increases the clutch friction.

The supply reel spindle clutch adjustment should maintain a drag as the supply reel rotates when the PT6-A is in forward operation. This drag should be sufficient to stop the supply reel without permitting the tape to loop or throw when the control switch is turned from "FORWARD" to "STOP". The amount of friction should be the minimum necessary to accomplish this; 3-4 inch-ounces.

Too much clutch friction will increase the tape drag to a point at which the tape speed will be below normal.

The take-up reel friction clutch is located on the left side (facing the rear). This is similar in appearance to the other clutch but employs no pawl. It is also necessary to back off the set screw before adjusting this clutch.

The take-up reel friction clutch causes a slight drag to the synchronous motor drive when the control knob is set to "FORWARD" and acts as a brake on the take-up reel when the control knob is set to "STOP". The clutch adjustment is made by adjusting friction for the take-up reel and capstan to move the tape at normal speed forward when the take-up reel is almost completely full and the supply reel nearly empty. It should also provide sufficient braking to maintain tape tension and prohibit tape throw when the control switch is turned to "STOP" after the take-up reel has been rotating at high speed during rewind. The split knurled ring should be adjusted to provide the minimum clutch friction to hold these two functions; 6-7 inch-ounces.

OILING THE CLUTCH FELTS:
The felt washers have been oil treated at the factory to provide the correct amount of slippage. It may be necessary to give each felt washer (supply spindle felt; takeup spindle) one drop of high quality sewing machine oil every several months of use.

CLEANING THE HEADS:
It is necessary that the portions of the erase head and the record-reproduce head that contact the tape be kept free of dust, grease and foreign matter, or the frequency response characteristics will suffer. They should be cleaned with a soft cloth slightly moistened with carbon tetrachloride (C.P. after every five hours of operation.

The heads should be realigned periodically with standard alignment tape, which is available from Magnecord.

Note: Do not attempt to apply carbon tetrachloride to any part of the PT6-A or PT63-A when loaded reels are in place as the tape is soluble in carbon tetrachloride and will be ruined if it comes in contact with the solution. After using carbon tetrachloride make sure the heads are completely dry before threading tape and be sure none of the solution is transferred to the tape from the fingers.

HEAD REPLACEMENT:
Replacement erase or record-reproduce heads may be obtained from the distributor from whom the unit was purchased. They are interchangeable and housed in a unitized assembly that fits the head slot. The assembly can be replaced with the unit in use by removing the head unit and screwing in the new assembly. The head unit is designed with a guide in the lower portion that is indexed against the width of the head slot in the upper portion of the unit to position the heads accurately.

Smart Thieves Choose
And then there is the story which appeared in Broadcasting: The Editors labelled as "smart," the radio-wise thieves who stole radio equipment from a station in Binghamton, N. Y. Among the loot was a Magnecorder.
MaVoTape Balloon Up
Issue New Releases

After early production pitfalls common in new ventures, MaVoTape, Inc., producers of "Magnecordings by Vox" are now under way. Coincidental with the announcement that all orders already received will be filled by February 16, came the announcement of eight new releases.

New releases are:

- Masterpieces in Miniature by Orazio Frugoni, a potpourri of solo piano works which include 11 selections ranging from the familiar "Clair de Lune" of Debussy to "Joy of Man's Desire" by Bach.

- Mendelssohn — Symphony #4 by the Vienna Symphony Orchestra conducted by Otto Klemperer. Chabrier — Pieces for Orchestra by the Concerts Colonne Orchestra, Louis Fourestier, Conductor. This latter collection includes the famous "Espana."

- Corelli — Twelve Concerti Grossi with Dean Eckertsen conducting the Corelli Tri-Centenary String Orchestra. These Concerti comprise the first complete recording of this work. Due to the length of the composition, MaVoTape will release the Concerti in sections. The first tape will include the first four concerti.

- Beethoven Choral Fantasy by the Vienna Symphony Orchestra with Clemens Krauss conducting. Schumann — Concerto for Piano and Orchestra by the Vienna Symphony Orchestra with Otto Klemperer, conductor, and featuring pianist Guinomar Novaes.

- Mozart — Fourth Violin Concerto featuring Reinhold Barath, violin, with the Pro Musica Orchestra, Stuttgart. Chopin — Piano Recital with Guinomar Novaes. This collection of famous Chopin piano works includes many of the composer's most popular works such as "Fantasy Impromptu" and the "Minute Waltz."

(Continued from Page 2)

planted with the same sorts of materials familiar to 18th century gardeners. The colonial printing office, blacksmith's forge, wigmaker's establishment, apothecary store and other shops have been reopened. So far, about 80 buildings have been restored and some three hundred completely reconstructed.

The program also shows a number of Williamsburg's 18th century structures which today are public exhibition buildings, decorated and furnished as they were 200 years ago. The Capitol, where Patrick Henry cried out against the Stamp Act and where colonial legislators voted unanimously for independence from Britain, is now open to the public as is the Raleigh Tavern where Patrick Henry, Thomas Jefferson, George Washington and other revolutionary leaders, ate, drank and argued politics. The elaborate Governor's Palace, home of the royal governors of the colony, the colonial Gaol where Blackbeard's pirates were held, the Magazine from which the British removed the colony's powder, the Wythe House which was Washington's headquarters before the siege of Yorktown are all exhibition buildings. The list of restored or reconstructed buildings open to the public also includes the Brush-Everard House, Ludwell-Paradise House, 18th century Courthouse, Bruton Parish Church and shops where bootmaking, cabinetmaking, spinning and other crafts are performed as they were in the 18th century.

The Colonial Williamsburg Reception Center Program presents all these buildings to visitors, not only as feats of research and architecture but also as symbols of one of the most impressive eras of the American past.

Research Scientists
Rely on Magnecorders

It's flattering to have scientists of the Armour Research Foundation of Illinois Institute of Technology use Magnecorders. They are, of course, one of the largest and most important institutions set up for industrial development and applied research. Also, they are the developers of magnetic recording and holders of exclusive patents under which they license all manufacturers who produce magnetic recording equipment.

Among their uses is that of the famed physics research department. The acoustics and vibrations section have been pioneers in the scientific study of urban noise. Their important work may some day lead to establishment of national forms of legal noise tolerances and standards.

In the course of their five year study, they have found that traffic noise is loudest and more objectionable than industrial area noise to which people most often object. Motor coaches are not the most annoying noise source but only seems so since they operate on boulevards that are otherwise quiet.

WHO USES MAGNECODERS?

Our feature on "Who Uses Magnecorders?" began last month met with surprising favor. As a result, we are continuing a listing of 25 purchasers who returned warranty cards within the past two weeks. They are selected at random.

We do owe an apology to the radio broadcasting people. We did not mention any radio stations purchasing units. It was the feeling that it would be unfair to the several hundred stations now using Magnecorders to reel off a list of new purchasers—most of whom already are using Magnecorders.

Here is this issue's list from Warranty Cards received Jan. 5-19:

Royal Canadian Mounted Police, Ottawa, Canada.

Brigham Young U., Provo, Utah.

Chevrolet Exper. Test Lab, Detroit
First Baptist Church, Crowley, La.
Carnegie Institute of Technology, Pittsburgh.
Bendix Aviation, Detroit.
Allerton Chemical Co., Rochester.
Musey Porter's School, Farmington, Conn.

Museum of Vertebrate Zoology, Berkeley, Cal.
B.C. Dept. of Education, Vancouver, B.C.
Control Systems Lab, U. of L., Urbana, Ill.
Westinghouse Electric Corp., Baltimore
St. Louis Medical Society, St. Louis, Mo.
O'Brien Electric Co., Los Angeles
Columbia University, Dobb's Ferry, N.Y.
Pacific Telephone & Telegraph, Los Angeles
El Campo High School, El Campo, Tex.
West Indies Missions Inc., Placetas, Cuba
General Electric Co., Lynn, Mass.
New Departure Div., GMC, Bristol, Conn.
Wiederhold Recording Studios, Louisvile, Ky.
Salinas Public Schools, Salinas, Kansas
So. California Baptist Convention, Los Angeles
U. of Tennessee, Knoxville, Tenn.
Photo Bell Co., Brooklyn, N.Y.