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audio record

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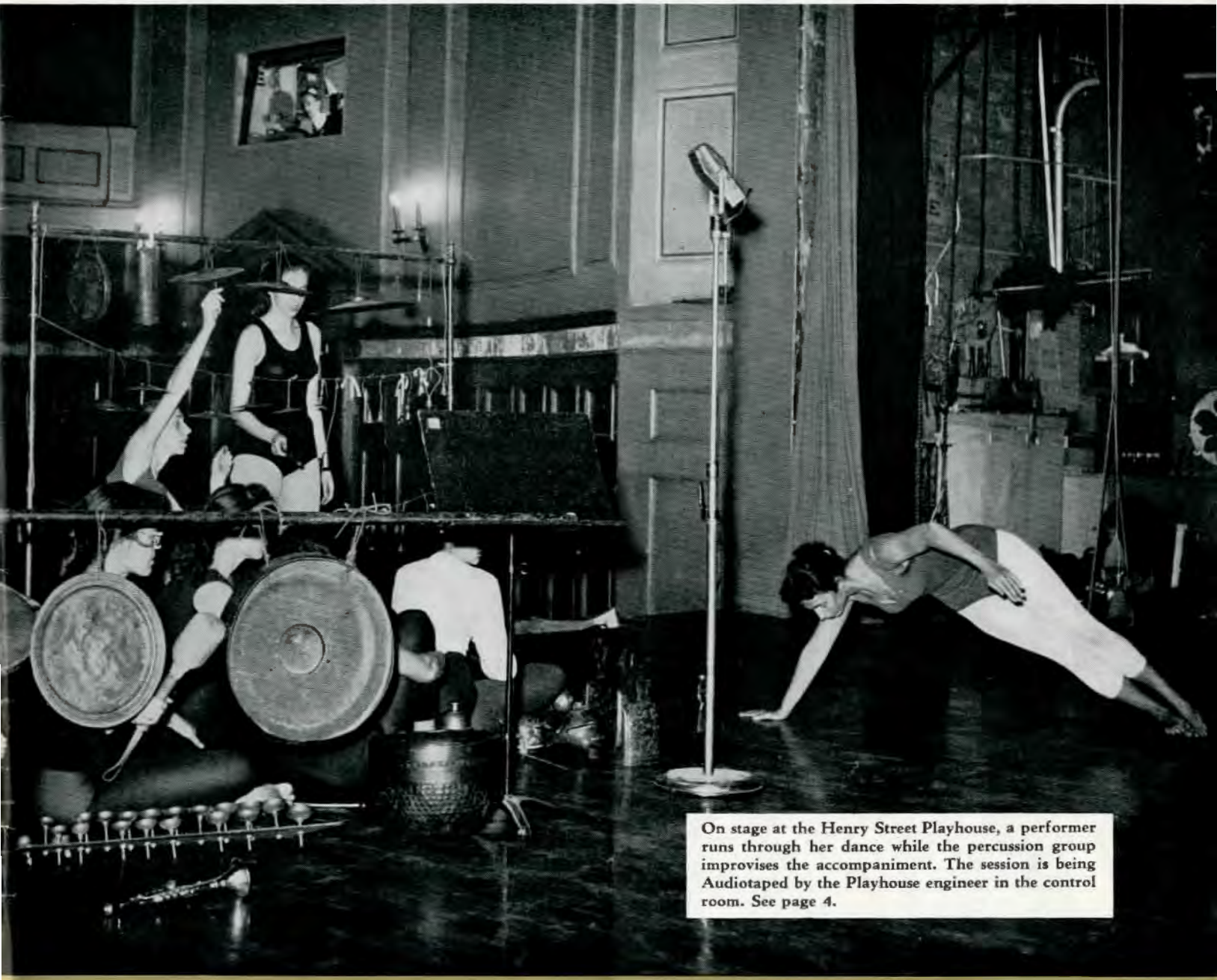

On stage at the Henry Street Playhouse, a performer runs through her dance while the percussion group improvises the accompaniment. The session is being Audiotaped by the Playhouse engineer in the control room. See page 4.

JUST ANNOUNCED . . . ON PAGE THREE

EDUCATIONAL AWARDS WINNERS

In the control room, John Beaumont plugs in his headset and watches the VU meter. The notebook on the table contains data on recording schedules, signal checks, etc. Note Audio's new C-slot reels on the equipment.

Gene Kee, the man in charge of the duplicating room, makes one last check of the Ampex "master" before he starts the duplication. The speaker in front of him provides Gene with test music from Livingston tapes.

A DAY AT LIVINGSTON'S PLANT

by an Enthusiastic Tape Tyro

We got off the bus at the Caldwell, New Jersey, depot to meet Art Cooper, executive vice-president of Livingston Audio Products Corporation, who had graciously consented to show us around. The drive from the bus station to Livingston's plant was a short one.

As we went up the steps to Art's office, he told us that he was born and educated in Vienna. He came to the United States in 1940, spent several years in Europe with the Army and after the war went back to his native Vienna to study. He received a Ph.D. in economics there in 1953.

It was in 1952 that Art Cooper met Ched Smiley, president of Livingston. The background to the meeting is interesting. Ched started making tone arms for phonographs right after the war. Emory Cook, who at the time was experimenting with stereophonic sound on discs, came to Ched in 1949 and asked him if Livingston would be willing to make a special stereo tone arm containing two stylii. Livingston would and did. The first exhibition of stereo was by Cook at the Audio Fair in New York in 1949.

Livingston received so many requests for its tone arm that orders were backed up nine months. The really phenomenal thing about the whole affair was that there were only two stereo records available at the time. For this reason, Ched decided to go to Vienna to make several more stereo recordings. And that is where he met Art Cooper. Interestingly enough, those same recordings from Vienna were the first stereo tapes issued by Livingston and are still included in the Livingston Library.

"Now that you know the history of Art Cooper and Livingston, come and see our facilities," Art suggested. "Let's start with the studios because that's where the tapes themselves start."

Throughout our conversation, we had been hearing the rich harmonies of Handel's "Messiah." Now, as we approached the studios, we realized that they were the source of the music. "We have some selections from the 'Messiah' in our library," Art informed us, "but the entire 2½-hour tape hasn't been processed yet. We expect to include it any day though."

We stepped into the studio — a room containing a large variety of electronic and recording equipment. The notes of the "Messiah" hit us with full force. Art nodded to two pleasant-looking men in the room. One of them turned off the "Messiah" while the other extended his hand. "Hi, I'm Bob Rose . . . and this is John Beaumont." Art explained that Bob and John were the "audio experts" at Livingston — both of them were electronic engineers.

"Have you ever heard stereo?" Bob asked. We admitted that we had never heard the real thing. "Get ready for a treat," Art said as Bob reached for a reel of tape.

"This is our 'Stereo Showcase'," Bob explained, "a sampler which we made to demonstrate the variety of offerings recorded by Livingston. Take a listen."

The next minute the room was filled with the strains of a piece we later learned was "Sorcerer's Apprentice." It seemed that suddenly we were in the middle of the orchestra. Each instrument could be identified. Yet, there was a sense of unity and power to the music such as we had never heard before.

About an hour-and-a-half and several Livingston tapes later, we were accompanying Art on our way to the room where the consumer tapes are actually recorded. Along the way we asked about Livingston's tape library. "We have tapes suitable for three types of recorders — dual track monaural, stacked stereo and staggered stereo," Art said. "There are over 160 monaural titles and more than 50 stereos. All of the stereos are available for both stacked or staggered head machines.

By this time we had reached the duplicating room where Art introduced us to

(Continued on Page 6, Col. 2)

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TAPING THE DANCE AT HENRY STREET

by BETTY YOUNG, Associate Director, Henry Street Playhouse

The flexibility of magnetic tape has made available to the performing arts a boundless expanse of captured sound. One of the most exciting experiments in the field of the theatre deals with these limitless possibilities in new areas of musical art.

Modern dance, itself a comparatively new art form, has become aware of this sound potential in relation to the accompaniment of dance. Choreographers, in search of new auditory material, have turned to tape with excellent results.

One such choreographer is Alwin Nikolais, of the Henry Street Playhouse. Acclaimed by critics for his new approach to dance, he has engendered almost equal excitement by his use of the science of phonics in combination with the art of dance. Mr. Nikolais and David Berlin, Playhouse sound engineer, have developed a type of dance accompaniment which can exist only through the use of tape.

Basing their work on concepts of "free sound," these two men explore the total realm of sound rather than just those sounds emanating from musical instruments. The sounds are selected, invented, extended or electronically altered. The sounds are then assembled for use in dance accompaniment.

Theatre is a group art, not only in the sense that it requires the efforts of many people, but in the sense that it is an integration of many arts. Among those that are obviously inherent in the myriad activities of the Playhouse is that of sound. Particularly this is true in the field of modern dance, a relatively new group art.

The Nature of the Dance

The modern dance choreographer communicates his ideas directly through motion itself, without the interference of the human character. He will use the motion of the arm, for instance, transcending its physicality and translating it into tree, cloud, bird or even essences beyond these visions.

It is entirely reasonable to assume that the sound accompanying such dance should be similarly free from the physical encumbrances of musical instrumentality. Unfortunately the sounds produced by traditional instruments have long been bereft of some of their sensory vitality. The instrument always speaks of itself. Techniques have become so defined that a kind of sensory sterility seems to have infected the art of sound.

The advent of tape may well hold the key to the cure. Different and unusual sounds can now be captured. New sounds can be invented. Aesthetically organized, these sounds emerge from a speaker and defy conventional characterization. They are not "violins," "pianos," "drums." They are values in their own right whose existence is not stigmatized by musical history, or limited within the boundaries of conventional musical vocabulary.

In the meantime we must know where to begin. One cannot sit quietly for long without becoming aware that there is virtually no such thing as "quiet." One's ears perceive the distant rumble of cars, the call of a child, the hum of a plane, the song of a bird, the rush of water, the tinkle of glass, the crash of metal, ad infinitum. Judiciously culled, organized, reshaped, the sounds become "music concrete."

By combining this manner of sound with motion and light, the Playhouse attains a new level of dance performance. Accompaniment for dance may be rhythmic, arhythmic, counter-rhythmic, or even completely non-existent depending upon various factors. The music might be in conventional scales, atonal or it might even be just noises. Sometimes the accompaniment is a matter of accidental circumstance.

Recording a Dance

In a recent performance a recording used by the Playhouse Dance Company was made in the following manner. During the recording session, while the dancer rehearsed, a pianist struck chords and improvised to the choreography, which already had been composed.

The recording engineer watched both the dancer and the pianist. By manipulating the recording volume control, he cut out the percussive sound of the piano chords but picked up the residual tones of the piano's vibration. Then he varied the dynamics of these tones in relation to the dancer's movements. The effect was quite startling. The final sound had an organ-like quality in combination with the balance of the pianist's improvisation. Such an effect could not have been attained in a live performance. Only recording made it possible.

Much of the playhouse dance accompaniment is obtained this way. The Playhouse Percussion Group gathers on stage. While one or more dancers "run through" the dance, the percussive accompaniment is conceived. Dozens of "retakes" are made. Sometimes small parts of several are used in the final tape. Often small sections of a tape are repeated or built up. Echo effects are used. Parts are slowed down or speeded up, and even played backwards. The human voice is used in various ways. Speech and song, solo and choral, gargles and grunts, screams and whispers, mumbles and murmurs all have been used alone, and in combination with instruments. These are

Engineer David Berlin cuts and edits tape in the Playhouse sound room as Dance Company Members Dorothy Vislocky and Coral Martindale "walk" through their dance. Colored Audiotape proved to be an ideal answer to a difficult recording and editing problem described in the article.

PLAYHOUSE

only a few of the many recording techniques utilized. The final tape for a four minute dance may contain as many as a hundred splices. It would be impossible to play such an accompaniment "live."

There are other reasons involved in the use of tape at the Playhouse. Recently the Playhouse Dance Company performed a full length dance concert as part of an arts festival at the University of Illinois. The music was composed by Harry Partch on instruments of his own design and construction, played and recorded in Urbana, Illinois. Tapes sent to New York enabled Mr. Nikolais to create the choreography although the orchestra was a thousand miles away. When the work was performed in Illinois with only one or two rehearsals of both orchestra and dancers, it was a huge success as an integrated art work. The use of tapes was responsible for this. Were it not for a set of tapes which enables the Playhouse Dance Company to place this concert in its active repertory, the performance could only remain historical in value since Mr. Partch and instruments reside in California while Mr. Nikolais and company remain in New York.

Tape Has Many Advantages

Not a small consideration in the use of tape is the matter of finances. The Playhouse could certainly not afford to employ musicians and percussionists for each of its performances, to say nothing of long rehearsals. But with tape, the engineer merely takes the reel from the library, screws on the reel flanges, and the complete score is ready for performance.

All the tapes at the Playhouse are recorded at 15 ips and used at that speed for performance. A rehearsal copy is made at 7½ ips, is used by the dancers for rehearsal, played on one of the two portable machines (a Pentron and a Webcor). Both tapes are stored carefully when not in use. The performance 15 ips copy is locked in the sound control room, while the rehearsal 7½ ips copy is kept in a cabinet accessible to the dancers.

The accompaniment for many full dance concerts at the Playhouse is contained on two or three NARTB 10½" reels, and played from beginning to end without any breaks, except for intermission. This is true despite the fact that the concert may be composed of many different dances. Accompaniment, entre-acte, music and breaks are all carefully timed to allow for the opening and closing of the curtain, set changes, costume changes, lighting changes, etc. The engineer merely has to start the tape at the beginning of the performance and then stop it at the end.

Continuous running presents the problem of finding cue spots on the tape should it be necessary to stop the tape for any reason during performance or rehearsals. Leader tape solves part of this. However, there are times when the lack of break in sound precludes the insertion of leader tape. Placing a small piece of splicing tape on the back of the tape was found unsatisfactory since it was hard to locate at rewind speeds and caused a "blip" as it passed the playback head. The simple expedient of using colored Audiotape has completely solved this problem. It is now standard procedure to record the dance accompaniment on the standard brown Audiotape, overtures on the green Audiotape, and entre-actes on the blue Audiotape. Thus one can play directly into the other with no audible break and still the engineer can locate any starting point.

An engineer's view of the Playhouse stage as the curtain is about to rise. Sound and dance are coordinated best when Engineer Berlin has a full view of the stage.

Prior to the current installation, the Playhouse sound system was a make-shift affair composed of a P. A. amplifier, two ten dollar phonograph playback attachments, and two small speakers in wall baffles.

Performers on stage were at the mercy of an unschooled volunteer who attempted to begin the records as close to cue point as he could guess. Quite often, the first few counts of the dance were completely missed through the trial-and-error methods of the "engineer." In order to cut down this headache, recordings were made at professional studios and acetate discs were cut. After a few plays the noise level far exceeded the program level. Making duplicate records, one for rehearsal and one for performance, helped somewhat but was far from ideal. A tape machine was unquestionably essential if we were ever going to achieve our goal of complete coordination of sound and dance.

The Problem: Getting Free Equipment

Making the decision to acquire a tape recorder was much simpler than finding the funds with which to carry out the decision. The Playhouse Dance Company, under Alwin Nikolais' direction, undertook an east coast tour until the minor fortune was amassed. Through their extra-curricular activities the purchase of a Concertone 20/20 recorder was made possible. An Altec 604B speaker and utility cabinet were obtained at a nominal cost through the persistent efforts of David Berlin (a thoroughly trained and competent audio man) who had recently volunteered his services to the Playhouse. This speaker, properly driven, proved to be sufficient for an auditorium speaker since the house is small (seating 350) and is acoustically fairly well designed.

The P. A. amplifier was completely rebuilt to improve its quality greatly. It provided two microphone channels. The Concertone provided one microphone and one high level input. A turntable and arm, a G. E. pre-amp and variable reluctance cartridge, two Turner dynamic microphones, and few minor parts constituted the basis of the system. Then, the Commercial Radio Sound Corporation donated a seven-foot rack and the National Broadcasting Company provided a single row patch bay.

This installation proved one thing conclusively — its inadequacy. A good audio mixer was needed. Mr. Berlin persuaded NBC to donate a field mixer. CBS came through with an RCA 76B Consolette. Along with that came a Presto 10A turntable and console, another seven-foot rack, an RCA transcription arm, 1000 feet of microphone cable, as well as other smaller parts.

The beginnings of a professional tape system were now taking shape. An unused, long, narrow property storage room lay adjacent to the auditorium. This became the sound control room. A hole was cut through the brick and acoustic wall of the auditorium through which a window was framed. A short counter-table was built up from the window across the room in an "L" shape.

The Johns-Manville Company supplied all the necessary mineral type acoustic tile, asphalt floor tile and the necessary cements. An electrical supply house contributed conduit, boxes, fittings, AC power switches and service. Two double and one single patch bay jack panels and several double plug patch cords were the gifts of the Audio Development Company. The MacIntosh Laboratories gave a 60A power amplifier, supplying 60 watt output, while a

(Continued on Page 6, Col. 1)

Taping The Dance

(Continued from Page 5, Col. 3)

Wharfedale 8" speaker and an R-J cabinet to be used as a control room monitor speaker were the gifts of British Industries. The Heath Company donated an Audio Signal Generator. Arrow Electronics supplied all the required small parts, switches, extra wires, etc., at cost price. The Fairchild Recording Company gave a 281A phono arm and a 225A and 225C cartridge. The Presto Recording Company rebuilt the 10A transcription turnable.

With this equipment the installation was started. No money was available for labor and very little for parts. Nonetheless, within about two months, enough was accomplished to allow the older equipment to be moved from the stage to the sound room.

Because the busiest production season of the Playhouse was reaching its high-point at this time, the changeover had to be accomplished rapidly. The old system was hooked up in one evening. During the next several months, more and more of the new equipment was put into shape and hooked up.

More Problems Arise

The new installation led to what sometimes seemed the endless discovery of imperfections within the system. One weak point was the dynamic, high impedance microphones in use. NBC came up with three old microphones, a 44A, a 77B and a Varicoustic, all RCA microphones. The RCA Service Company rebuilt these, as well as the RCA transcription arm originally donated by CBS. The phono arm was, incidentally, converted to microgroove stylus and LP equalization. RCA also supplied the manuals and diagrams on the 76B Console without which rebuilding would be very difficult. The Robins Industries is supplying one of its professional tape splicers.

There are still other items to be obtained. A new motor is required for the Presto turntable. A program equalizer is a serious need. But, by the fall, the Playhouse will own a high quality, professional system.

The system is still not complete. Many more hours of labor will be required before the installation takes its final form. When this happens, the Playhouse hopes to have a system equal to any theatre in the country — one which can truly be instrumental in the creative process which makes the Playhouse the vital institution it is.

* * *

The author wishes to thank Mrs. H. Whiting Livingston, Mr. David Berlin and Mr. Alwin Nikolais — the people whose assistance made this article possible.

A Day at Livingston's Plant

(Continued from Page 2, Col. 3)

Gene Kee, the man in charge of duplicating the sounds onto the blank tapes. Gene told us that the duplicating machinery consisted of a "master" and several "slaves" — all made by Ampex. "After the boys downstairs get finished with their splicing and editing they send me the tape. I put it on this 'master' and then put a blank reel of Audiotape on each of the 'slaves.' I push a button on the 'master' and both it and the 'slaves' start running at 60 ips, the speed at which we duplicate the recordings. Don't get confused though. The original is recorded at 7½ ips, and that's all that matters. The rate of speed at which we make the recorded copies from the master is unimportant within certain practical limitations. The copies, of course, should be played back at 7½ ips.

"We duplicate at 60 ips because that is the greatest speed at which high frequency response can be accommodated by present amplifiers. The heads can take a band of about 140,000 cps at that speed."

We puzzled over the 7½ versus 60 ips, and finally realized the logic of what Gene had said. Then we asked about the methods used to check the fidelity of reproduction.

"You have to realize that these 'slaves' are nothing much more than a few mechanical devices and a recording head. There is no complex electronic equipment in them. All the electronic stuff is here in the 'master' or in the playback and recording amplifiers. Consequently, most of our defects occur in them.

"Our first check is what you might call a continuous audible sample. I take sample tapes from each batch, and play them on this recorder over here. This check makes my job more interesting — gives me a built-in music system while I work.

"While I am making the duplicates, I'm constantly watching the VU meters on the 'slaves.' This is a good checking device.

"Every hour one of the engineers runs a level tape through the master to check that both channels are getting the same level. Once a week the frequency response is checked. The machines are given a thorough lubrication once a month. Every thousand operating hours — this means about once every two months at our present schedule — the engineers give these machines a complete maintenance check on head alignment, frequency response, etc.

"Frankly, we have found no real problem with quality control. We think we owe this largely to the electronic genius of Bob and John and the preventative maintenance measures they take. There have been very few complaints from customers. And most of the ones we do get can be traced to defects in the customer's own machine or to lack of understanding of pre-recorded tape. Only very seldom do we have a slip-up."

How much did the engineers feel they lost between the original tape made at the performance and the final duplication that the consumer plays at home? "We figure that there is no significant loss of quality — up to 12,000 cycles, at least."

While Gene was talking, we were wondering about the extent to which Audiotape entered into Livingston's quality control picture. So we asked. "Frankly, we get an occasional mistake from Audio. I remember once you sent us 200 reels of the wrong type of tape. But, we are very happy with the way Audiotape has performed for us. I guess you know that the engineers downstairs made numerous checks before they finally chose Audiotape. And when I see them twist and pull that Audiotape downstairs, I wonder how it can stand the gaff. But it always does."

During the drive back to the bus depot, we cleared up a couple of loose ends. First, we wondered about how the original recordings were gotten. "We normally get the original recording in either of two ways," replied Art. "Most of the time we make them ourselves — deciding the composition to be played, the artists, etc. But sometimes we tie in our recording with that of a phonograph record company. Either we make our tape recording at the same time as they make theirs or we buy the right to use their recordings for our tapes.

"Once the original tape is made, we bring it back to the studio and copy it immediately. This safety copy is our insurance against a complete loss of the recording session — and with it thousands of dollars. Then Bob and John go to work with our musical director, Dr. Hans Wolf — the man responsible for musical content here — to make the master to be used in the duplicating room. During a recording session, we may make twenty or so different tapes of the same passage. It is up to Dr. Wolf to pick the best 'take' of each passage and then splice all of these 'takes' together into the final dubbing master. Sometimes we don't get the exact effect we are looking for — even when we have made the dozen or more 'takes' I mentioned. Then Bob and John play with the Ampex and come up with the right sound."

Our final question was about business in general at Livingston. "We are virtually doubling our business every year," said Art. "Right now we have an order in for more of those 'slaves' you saw. Business is booming — not only for us, but for the whole recorded tape field. Our tape library is expanding every day. Both Audio and Livingston are in a good business. And we're in on the ground floor."

audio pointers for the Recordist

by C. J. LeBel
Vice President, Audio Devices, Inc.

A NEW PROFESSIONAL TAPE

C. J. LeBel

Several years ago we released data on magnetic print-through on tape, indicating that print-through could be more serious than noise. Since then, the recording industry has had increasing difficulty with print, as its tape originals have aged and print has increased.

Some sales departments (and a few editors) felt that print-through could be exorcised by simple denial, but lacking a friendly witch doctor this method didn't seem to work. Fortunately, our Frank Radocy had anticipated that print would be a serious problem, and had started a research project with the assistance of engineers and chemists on our Research Laboratory staff. Well over three years of work by him and his associates has led to the development and production of a very interesting new tape. Once again science has beaten hocus pocus.

Print-Through

Print-through is the transfer of magnetism from one layer of tape to another, showing up as an echo before the signal and after it (pre and post echo), as in fig. 1. Pre-echo has been found more obtrusive — even the public has noticed it on phonograph records, created by print on the original master tape.

Print-through increase is directly proportional to time.[1] It can be decreased by use of a thicker base,[2] as shown in fig. 2, but this implies less playing time for a reel of given size, which no one will accept. It is reduced in tape of lower output, but this would be unacceptable to the industry. A shielding layer does not seem to help.

In a given tape measured at a fixed time after recording, print rises and falls with signal level, remaining a fixed number of db below the recorded signal. Hitherto, the only practical way of reducing the obtrusiveness of print has been to reduce the recording level to the point where the print level dropped below the general noise level, which calls for a sacrifice of 6 to 8 db in signal-to-noise ratio. Many of our leading recordists have been doing this, after finding print more objectionable than a rise in noise level.

Our Work

At the beginning of our work it was obvious that leading recordists wanted no sacrifice of any characteristic in order to obtain low print, which greatly accentuated the difficulty of the problem.

The first step was the development of an improved oxide, but results with a given batch of improved oxide were found to be very variable. It was apparent that some elements in the processing were causing a loss of improvement; in fact, there were innumerable ways to use the oxide to produce a tape with no improvement at all! After some effort, the right processing methods were developed and the true quality of the oxide was developed consistently on the tape — in the laboratory. More research and more time, and low print tape was on a production basis over three years after the project started. The production methods are more complex and more costly than those which produce standard tape, so that the cost is necessarily slightly higher.

Field trials of a number of versions at leading phonograph studios confirmed the reduction in print-through, as well as the fact that they wanted all the reduction they could get, and without *any* loss in frequency response, signal-to-noise ratio, etc. This data guided Mr. Radocy in choosing the proper production methods and in setting up quality control procedures for the new Master Low Print-Through Audiotape. The new material has now been in steady production for over six months.

Some Data on Master Audiotape

1. Frequency response, noise level, output, distortion, etc. are the same as for standard Audiotape — *there has been no loss whatever.*
2. The material is presently available only on 1.5-mil Mylar or 1.5-mil acetate base.
3. Print-through is reduced by at least 8 db, as compared to standard tape. A comparison of print for Master Audiotape, conventional tape, and high output tape with the noise level of a professional recorder is shown in fig. 3. It is interesting to note that measurements seem to predict that Master Audiotape will take about 135 years to develop the same print that standard tape has at one week after recording.

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1. Frank Radocy, Tape Storage Problems, Jnl. Aud. Eng. Soc., Vol. 4 No. 1, Jan. 1957.
2. C. J. LeBel, Print Through, Audio Record, Vol. 11 No. 3, p. 7, June-July 1955.

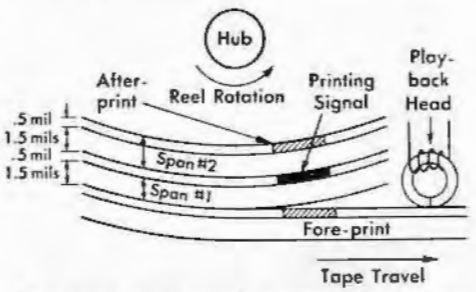


Fig. 1. Origin of difference in intensity of fore and after prints, in differing distance to the signal which causes printing; illustration pictures oxide-in wind condition.

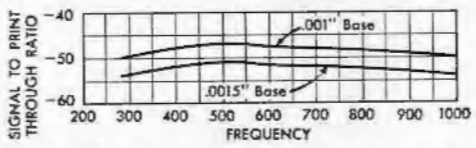


Fig. 2. Effect of base thickness on print-through, measured one month after recording.

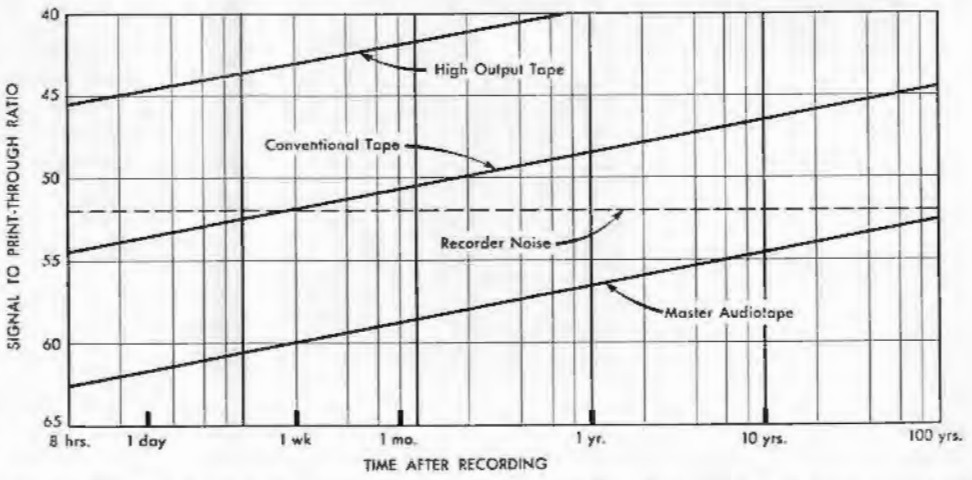


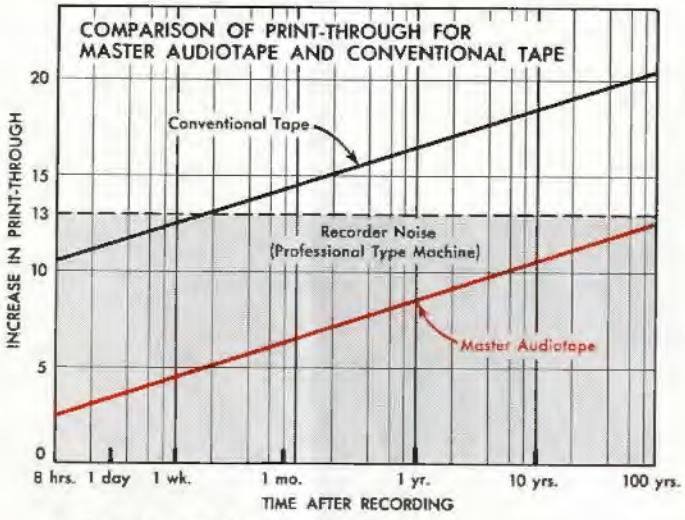
Fig. 3. Comparison of rise of print-through with time — for Master Low Print-Through Audiotape, conventional tape, and a tape designed for higher output — as related to professional recorder noise when operated with recording level 8 db below that corresponding to 3% harmonic distortion.

Master Low Print-Through audiotape

The FIRST and FINEST low-print tape . . .
Cuts "magnetic echo" by 8 db

What Is Print-Through?

Print-Through is the magnetic "echo" effect induced in adjacent layers of tape by any recorded signal. It continually increases with time while the recorded tape is in storage. To keep print-through from being too objectionable, conscientious recordists have heretofore had to lower recording levels as much as 6 to 8 db, with reduced signal-to-noise ratio and sacrifice in tone quality.



0 = 63 db below 3% distortion at 1 kc, peak bias

How Is It Eliminated?

In Master Low Print-Through Audiotape, print-through has been reduced 8 db, by the use of specially developed magnetic oxides and special processing techniques — *without changing any other performance characteristics.* The curves at the left show the remarkable improvement obtained. Since print-through of Master Low Print-Through Audiotape remains well *below* the machine noise, it is "eliminated" for even the most critical ear.

Master Low Print-Through Audiotape on 1½-mil cellulose acetate

Master Low Print-Through Audiotape on 1½-mil "MYLAR" polyester film

Thoroughly PROVED in service, and now available in AMPLE QUANTITY!

Master Low Print-Through Audiotape has proved itself in over a year of actual service. Thousands of reels have been used by manufacturers of phonograph records and pre-recorded tapes and other top professional users. It has been in regular production since May, 1957, and is now available in ample quantity through dealers everywhere.

Laboratory studies indicate that stored Master Audiotape will take *more than 100 years* to reach the same print-through level that mars ordinary tape in one week! With an 8 db reduction in print-through, you can use higher recording levels, get better signal-to-noise ratio, and still have decades of freedom from harmful print-through effects. For a new high in hi-fi and new permanence for your priceless recordings, ask your dealer for Master Low Print-Through Audiotape. Available in 1200 and 2500 foot lengths in *two types* — on 1½-mil acetate and on 1½-mil Mylar*.

*DuPont Trade Mark

audiotape TRADE MARK *it speaks for itself*

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