

Recorders — Sounds And Railroads

by William A. Steventon

Bill has been making railroad sound recordings for his Railroad Record Club for over 29 years. He has offered to relate some of his experiences and recording techniques with us.

Back in 1953 when we first started making recordings, the small lightweight recording equipment that is so readily available now, simply was not in existence. To operate our recording equipment in the field we required a dependable source of a.c. current, yet light enough to carry around. By the standards of today, our equipment was anything but lightweight! We had a 12 volt auto battery for the primary power source, a 12 v.d.c. to 110 v.a.c. rotary converter, a reel to reel recorder plus a satchel of extra equipment, tapes and assorted material. Two men could struggle with all this equipment, but it required three men to carry everything with any degree of ease and mobility. In addition we normally carried a battery charger for use with keeping the battery up to par during the night. This could be left in the auto during the day, but was a very necessary part of our total equipment requirement. The information given will be based primarily on our experience with this type of equipment. We have never used a cassette to make the original tape, and if we should start recording again we would, in all probability, still use our original equipment with which we are so familiar.

KNOW YOUR EQUIPMENT

This is a very important point in recording. Know your equipment! Know what it will and will not do. The best way is to first study (not just read) the instructions manual. Then start making recordings of anything—autos, planes, trains, buses, air hammers, saw mills, etc. Anything that makes a noise is subject for experiment. Even the passing traffic in front of your home would be a good starting point. Branch out by recording the cry of a baby, the clang of a cash register drawer being opened, a fan operating on a hot summer day or the playing of a piano in your home. Notice how far you are from the source of the sound and what level recording it required.

One item that will be of tremendous assistance will be a pair of headphones that will allow you to listen to WHAT is being recorded. Our first recordings were made without this accessory, but we soon found out that headphones were required to know WHAT was being placed on that tape. A meter or visual recording indicator is necessary, but this will only tell you what level NOISE is being recorded, and that noise may not be the sound you are seeking.



Recording compressor operation on North Shore car 724 at the Mundelein station. Note use of headphones.

Some recorders can be used with headphones plugged into the monitoring, or external speaker jack. If not, take your recorder to a radio or electrical shop and explain what you are seeking and see if a jack can be installed for monitoring use on your recorder. DO NOT use the built-in result in feedback and squeels. If you speaker for monitoring as this will result in feedback and squeels. If you have done any recording you have probably already encountered this situation.

In field work you may not have time to set up a "studio" situation with mike stands, etc. Often you'll just have time to get the equipment in operation and end up holding the mike in your hand. Practice holding your mike and listen in your headphones to any noise associated with your movements. You'll soon learn exactly how much you can move without that noise being caught on your tape. Of course this isn't the best method, but unless you are adept at meeting emergency situations on the spot, you'll miss a lot of good recordings. When we made the recording of N&W 131 and 2123 on record No. 7, it was an emergency, on-the-spot situation. We had selected a good location using our geological survey maps to find a grade crossing on a hill. This indicated that the locomotive would be working upgrade and would have to whistle for this country road crossing.

We set up our "studio" operation and waited for the train which was due in about ten minutes. About five minutes before train time a farmer came down the road, moved into an adjacent

field and started his machinery which clanked, creaked and popped! We hastily dismantled our equipment, placed it in the auto and hurried to an alternate location about 5 miles further down the line. Luck was with us! Here was a siding and the 131 was getting ready to pull into the clear. There was no time for a "studio" set-up. We got the equipment in working order just in time to catch the 131 entering the siding. The 2123 was approaching in the distance, and we were able to record this meet, thus making a better recording than had we been able to remain at the first location. This illustrates the necessity of being able to meet and cope with emergency situations.

When we were ready to make a trip on a special Capital Transit car and were waiting for it to start, we dropped our mike on the concrete floor of the car barn. We rushed back home to pick up another and returned just in time to board the car. Another lesson learned the hard way—take extra supplies and accessories. Because of this incident we were unable to obtain some excellent sounds of cars being moved on and off the transfer table. Needless to relate, we carried spare mikes as well as tapes, extension cords, splicing equipment, etc., after that incident. You think it won't happen to you, but Murphy's law sometimes prevails in the best of circumstances.

When we made our very first recording in 1953 we took the equipment to Riverdale, Maryland and recorded a steamer thundering past the B&O station. When it was gone we stopped the recorder, rewound the tape and played it back. Nothing happened—the tape was silent. We waited, thinking that the steamer wasn't within "hearing distance" as yet, but when it became evident that we should be hearing the sound, we investigated. In our enthusiasm to "get recording" we had failed to become familiar with



Waiting for approaching car of Hagerstown & Frederick (Potomac Edison) near Bethel, Md. Jan. 3, 1954. [A.Mesrobian]

our equipment. Instead of pushing the playback key, we had pushed the record key and were erasing the sound we had just recorded. Today most recorders have a locking device for recording that will prevent such a situation, but it was not on our equipment at that time. Had we been more familiar with the equipment, this would not have happened. This recording was made at night and we could not see the identification of the keys. Our first recording experience was a total failure, but it taught us a much needed lesson.

Become familiar with your equipment. Know which button or key to push, knob to turn, or jack to use. When you can do this easily, then practice in the dark. There will be a time when you will be making recordings at night and everything will have to be accomplished by feel. A visible recording level indicator is of value in cases like this rather than a dark meter.

SITE SELECTION

The making of trackside recordings is probably the most common one that is used by the majority of people. Here again, by knowing your equipment, and by constant practicing you will sense how far you should be from your rail subject. You will naturally be further away from a hard working steamer (if you can find one now) than from a passing PCC. There is no set rule to follow in site selection.

Geological survey maps are an excellent source for selecting recording locations since they show all the local roads, streams, grade crossings, railroads and other local features. The contour lines and bench marks on the maps will help you locate grades where a locomotive will be working upgrade. Remember though that a train in the opposite direction will probably be drifting downgrade—an entirely different sound picture. Using such a map for the local area in which you want to record makes site selec-

tion much easier. It is especially useful if you are working in an area with which you are not familiar. When we followed an East Broad Top train from Rockhill Furnace to Robertsdale, the conductor came over while we were parked at Robertsdale and asked how we could find all the back roads and paths to follow his train when we had an out-of-state auto license. He was surprised and interested when we showed him our survey map.

Information on geological survey maps can be obtained from National Cartographic Information Center, 507 National Center, Reston, VA 22092. There is a charge for the maps, but they can save a lot of time when working in the field. An index to individual maps is on a state basis, and can be obtained for the particular state in which you are interested. The index is an outline of the state with individual map area superimposed on the outline and giving the name of that particular area map.

IF POSSIBLE select sites that will be free from extraneous noises such as a lot of passing autos and trucks, farm and factory operations, etc. This is not always possible and in some cases produces interesting sound scenes. On our record No. 4, the B&O EM-1 passes behind a building with indistinct exhausts. When the locomotive emerges from behind the building and out into the open, the stack music breaks into crystal clear exhausts. Here the building provided an unusual and interesting exhaust pattern. Be especially watchful for wind noise as it is perhaps one of the most bothersome conditions you'll have to contend with in the field. But here again your headphones will let you know what kind of sound is going into your recorder. A quick shield for protecting your mike from wind noise can be made by placing your mike in the lee of a jacket or coat that is being held out from the body by one hand. This ties up your hand for manipulating the recorder controls, but sometimes this is the only way you'll be able to obtain a recording of something besides wind noise. This may not stop wind noise entirely, but it will help.

ON TRAIN LOCATIONS

Making "on train" recordings is interesting and sometimes tough. Here again practice will help guide you in placing your mike in the best location. Record No. SP-5 of the Soo Line 2718 was made from an open window on the first coach behind the locomotive. The mike was placed in the forward corner of the window sill where it was sheltered from the wind, yet picked up the sound of the locomotive. Many of our traction recordings were made with the mike suspended from the rear of the car. If you do not have an arm for hanging the mike and it is necessary to suspend it by twine or even its own cord, be careful of the swing and sway of the car as banging the mike against the car will result in a loud pop in your recording. Here again your headphones will tell you exactly what is going on your tape. Our recordings of Capital Transit PCC's and the 766 were made in this fashion. The Johnstown Traction car going up Roxbury Hill was also made with a mike suspended from the front of the car.

If you want the sound from inside the car with the motorman talking, making change along with passenger chatter, etc., just keep the mike inside—its that easy. Sometimes placing and holding the mike steady against the floor will produce a good traction recording. Again, practice, experiment, and see what can be accomplished. If you have time to experiment a little before making your recording, place the mike in various locations using headphones, or play it back right then to hear your results. A little pre-recording experimentation will pay big dividends.

In making the recording of CSS&SB locomotive No. 1013 we had a stereo recorder and placed the mike for track one in the electrical compartment with the second one hung outside the cab and down near the trucks. In recording the slow moving switching scenes at Olive we obtained both the snap of the unit switches as well as the hum of traction motors. When this was mastered for disc production, both tracks were incorporated into the mastering machine. The slow movement made recording easy and it eliminated any wind noise from motion. Fortunately, it was a calm day, otherwise alternate arrangements for wind noises would have had to be made.

TAPE PREPARATION

Use only one side of a two track tape. DO NOT turn your reel or cassette over to use the second side . . . IF . . . you intend to have masters made from your original. All pressing firms with which we are familiar like to have a FULL track tape for mastering. Normally home recording equipment is half track, and if so, use only the one side. This makes easy the editing and preparation of a tape in its final form. If you never intend to do anything with the original tape except use it for your own sound library perhaps there would be some

justification for using both tracks, but even so the use of one track makes for easier sound location when using the tape at a later date. Transcriptions can be made from the original, but at some future date there is a **good possibility** you'll want to do some work with your original and you are hampered by sound being on two tracks. It will cost a little more to use one track only, but the small additional cost is well worth while.

EXTRA HELP

Don't be surprised at the extra "help" you will receive in making recordings. Some instances are welcome while others, no matter how well intended, are sometimes bothersome. There is the friendly engineer who sees you alongside the track, waves, smiles and then blows the whistle or air horn that practically bends the pointer on your meter and breaks your ear drum. When we made a recording on a New York subway platform one passing man yelled at us and asked if we were spies! At other times small children will come along, ask questions and in general chatter among themselves. This type of "extra" help was welcomed when making our record No. 18 of the Chicago, North Shore & Milwaukee. A group of children at the Racine station bid Tommy goodbye as he boards interurban No. 754. This made an interesting sound scene so typical of sounds heard on a station platform.

KIND OF SOUND

The car or locomotive being recorded has a lot to do with what kind of sound you are going to obtain. A street car that is scheduled for the back shop for general overhaul will be "loose" and the sounds it makes will be entirely different from a car that has just been returned to service from the boys in the back shop and is "tight". A steamer with a loose side rod will clang and clack and a trolley with worn gears will sing its heart out at high speed. When a recording was made on the North Shore from Milwaukee to Chicago, we encountered a very strange situation. It had been our intention to make the full run, but after leaving Milwaukee and with the controller against the peg, the wind whistled through a crack in the front door. It screeched, changed pitch and practically played every piece of music (?) that had ever been written! The motorman attempted to insert a piece of paper in the crack, but it did not hold or stop the noise. Probably any other car would not have had this situation.

On the other hand, you may be in the right place at the right time to obtain an unusual sound picture. We had just pulled up to the Illinois Terminal station in Springfield when they started to move interurban No. 203. We didn't have time to set the equipment up outside and worked from within the automobile. The car had just started to move when one motor burned out, sparks flew from under-



Field recording of the H&F near Lewistown, Md., Jan 3, 1954. Not lack of headphones. [Ara Mesrobian photo]

neath the trucks and the remaining wheels spun like mad. The motorman still attempted to move the car and a passing brakeman yelled, "Burn her up boy, burn her up". Another car was then moved up, coupled onto the cripple and then pushed it toward the station. Here the interurban car broke down just as we arrived! While tragic, it did make an unusual scene for our record No. 25.

IDENTIFY YOUR RECORDING

It is easy to think that you'll remember the location of a particular recording. Unfortunately this is not so. Six months, a year, five or twenty-five years later you'll wonder just where the recording was made. The easiest way to identify a recording is to reduce your recording level to zero as soon as the train or car has passed and the sound has faded away. Hold it at zero for a second or two, then increase it again and speak into the mike with any short identifying remark such as, "Previous Illinois Terminal 203, Springfield, Illinois station, October 14, 1955". Identify all recordings as "previous" or "following", as the case may be, so you'll know which side of the identification remark is applicable. The short space of reduced recording level to zero makes a very convenient location to cut and edit tapes. Reduce the level to zero as a tape runs out—or when starting a new recording scene begin at zero and increase the level to that which you will use. If you are making trackside recordings and have misjudged the speed of the approaching train and you have considerable "dead" tape running through, reduce the recording level to zero and then turn it up again. You may do this several times before you find the right time for starting your recording.

SUMMARY

Know your equipment, how it operates and what it will do under different circumstances. Select a site that will provide the type of sound you are seeking. Above all—**BE PREPARED**. This Boy Scout motto should be uppermost in your recording work. Be prepared with extra accessories and supplies. Be prepared to make a re-

ording at a moment's notice. Be prepared to operate in the dark. Be prepared to make hasty adjustments in equipment use or site selection. Be prepared to compensate for any new situation that could cause interference with your recording. You won't overcome everything that can possibly happen, but be alert and be prepared to do your best.

These are a few simple suggestions for making your recordings. Every individual has their own particular plan of action and technique for making recordings. You will work out yours, but it is only by actually making recordings that this can be accomplished.

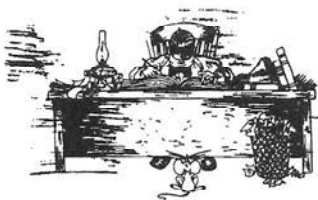
Remember when you stand by the track and watch a train thunder by you **SEE** the motion, you **HEAR** its noise, you may **SMELL** the smoke or hot traction motors, perhaps the breeze stirred up by its passing **TOUCHES** you. Together this gives you the sensation of railroading. When you lift the one ingredient — sound — out of its association with the others, your mind has to provide the other missing ingredients. Your mind must **SEE** the train, it must **FEEL** the ground shake as the sound approaches and passes, and your mind must **SMELL** the smoke or hot traction motors! This is true of music. Your mind must **SEE** the cavalry charging across the field in the Light/Cavalry Overture by Von Suppe'.

But remember, what you are recording **NOW** will be of historical interest to those who will come after you. What a tremendous asset to history it would have been if recording could have been made of Patrick Henry's speech, the sound of the first steamboat making its way down the river, or Lincoln's Gettysburg address! What you record now will be a flash back in history for future generations.

So take your recorder and start now. There are still lots of railroad

sounds to record. From crossing signals to interlocking works, the roar of a diesel starting, its working up a grade, the whine of a trolley shoe on a wire, the opening and closing of a trolley car door, plus many others. Look around and see the many different exciting sounds just waiting to be recorded. But use judgment. Railroad property is private property. You need not trespass to get good sounds. If you are on a fan trip, or tour of need not trespass to get good sounds. then, but above all, don't trespass, don't interfere with the daily work of the company involved. Ask permission, be courteous and considerate, and you'll most likely receive cooperation and be welcomed back again. Good recording!

AUDIT THE BOOKS



Editors and publishers are invited to send copies of new and reissued books, not previously reviewed by T&M to Traction & Models, 6710 Hampton Drive E., Indianapolis, Ind. 46226. Also invited are small leaflets, catalogs, postcards, photos, etc., which are offered to the Traction Fan or Modeler. There is no charge for a review, but T&M keeps the item for its files. Quote price of item. A complimentary review is not promised, but an honest opinion of one person will be given. Producers of Photos, slides, movies, blueprints, reprints, etc., are also invited to submit items for review on the same basis.

THE TOLEDO AND INDIANA RAILWAY by Sterling W. King. The Toledo & Indiana Historical Railway, 1001 S. Defiance Street, Archbold, Ohio 43502. Published in 1981 and available from the author at \$12.81 in soft cover and \$20.00 for hard cover edition.

The Toledo & Indiana history is an obvious labor of love by Dr. King, who is a life-long fan of the T&I and who has assembled a vast amount of material into the book. The book has approximately 114 pages and includes maps and about 270 photos on its 8½ by 11 inch pages. The book is arranged chronologically to cover the history of the line from its corporate organization in 1901 to the end of service in 1939. Roster notes and scenes of remaining traces of the T&I are included.

Unfortunately, the book is marred by production problems and a lack of professional editing. There are an annoying number of grammatical and spelling errors, even in cases where information was obtained verbatim from references such as "The Street Railway Journal." Many of the photographs are very small size, and the quality of photograph reproduction ranges from good to poor, with most falling in the fair to poor categories.

An example of the editing deficiencies is the use of two photographs captioned, "The famous 4th of July wreck, 1917." There is no description of the wreck or its cause in the text of the book. It is also unfortunate that there is no information on the Toledo & Indiana Historical Railway with which Dr. King is involved and which operates on part of the old T&I right-of-way near Delta, Ohio. Photos of some of the historical cars in this operation are included at the end of the book, but there are no descriptions of the equipment or operations.

All in all, Dr. King is to be commended for undertaking the production of this history. With just a little more effort it could have been a very good book.

—Malcolm E. Taylor

CLEVELAND, SOUTHWESTERN AND COLUMBUS TROLLEY, by Max Wilcox and Clayton Hallmark; Clayton Hallmark, 12 Jennings Court, Shelby, Ohio 44875. \$4.95 postpaid.

Even though the CSW&C was the second largest interurban in Ohio (only the Ohio Electric was bigger) comparatively little has been put into print about it. Perhaps the abandonment of the line in 1931 at the beginning of the collapse of the Ohio network means there were fewer "fans" around to ride and record this interesting line. Perhaps the Ohio Electric and the Cincinnati and Lake Erie have so thoroughly captured the hearts of so many Ohio interurban fans that there is little room left in their hearts for the "Green Line." Whatever the reason it is a shame more has not been forthcoming on the CSW&C.

The old axiom "little things come in small packages" applies very well to this softcover publication of 64 pages in the 5¼ by 8½ inches format. The book, while not all encompassing work such as the CERA publications, is a very enjoyable blend of 32 black and white photos and an easy to read text based on the recollections of Max Wilcox who rode over 100,000 miles on the Southwestern. Mr. Wilcox, whose father worked for the CSW & C for 30 years, obtained records from Fred Maddox, who was another long-time employee of the interurban company. Clayton Hallmark has apparently helped in rewriting Mr. Wilcox's former writings and is the distributor of the book.

Max Wilcox has provided a valuable eye witness account of the Southwestern as the book traces the line from its beginning in 1894 with temporary battery powered cars through its years of infancy, then rapid growth and finally and sadly, its decline. Mr. Wilcox tells from first hand experience of the hope that continued to linger in the hearts of 250 Southwestern employees that the interurban would survive its 1930 bankruptcy so that their 1500 dependents would continue to have food on the table and a roof over their heads.

When one stops and remembers that this was during a time when jobs were "hard to come by" and that many of these employees were old enough that their age alone would make it hard for them to change occupations, then the true impact of this abandonment comes through. It was not just the pulling up of rails and ties, the pulling down of the overhead and the pulling of some of the line's cars and the scrapping of others: the abandonment of the Southwestern had its consequences in the lives of nearly 2,000 people.

There is very brief coverage of several lines the Southwestern connected with—the Columbus, Marion & Bucyrus; the Mansfield & Shelby Route and the interesting Sandusky, Norwalk & Mansfield. The ONLY map is on the "green" cover. It is a route map that while showing the basics of the CSW & C system does not show highways, rivers or connecting interurbans and railroads.

My feeling is that "you get what you pay for" in this publication. The publisher shipped my copy promptly and it arrived in good condition. I am very happy I decided to order this book and felt the book was reasonably priced. However, I would like to see someone undertake publication of a more exhaustive work on this important Buckeye State interurban.

—Carl Ramsey

PHILADELPHIA CAR ROUTES, written and published by Harold E. Cox, 80 Virginia Terrace, Forty Fort, PA 18704. 139 pp., 6½ x 9, soft cover; available from publisher, \$9.

The latest effort by traction publisher Harold E. Cox untangles in well-organized fashion the complexities of Philadelphia trolley routings, rerouting and abandonments through the years. Start up, route merger and bus substitute dates are listed for all car lines operated by Philadelphia Rapid Transit and its successors Philadelphia Transportation Co. and SEPTA. Of 86 trolley routes, a dozen still are operated by SEPTA (though, as the tables indicate, in somewhat fitful fashion).

Similar information is given for early horsecar and cable lines and subway-elevated service, as well as for other traction operators such as the U.S. Department of Navy, which, we learn, operated the only 4' 8½" gauge street-car route in Philadelphia proper (from 1901 to 1917).

The only photograph, a partial view of Near-Side 6162, graces the front cover. This isn't a picture book. It's a wealth of diagrammatic sketches showing routes and the multitude of changes that many underwent. There are at least 596 (!) diagrams and maps plus 24 pages of track maps showing the regional system at its peak in 1914 and South Philadelphia in 1955. Dr. Cox says the book would have been much longer if he had included an all-time track map but he holds out the possibility of a companion volume.