

Tape Makes it Easier

by

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. . . recording a symphony is a painstaking, difficult task, made easier by tape.

recorded portion into the original tape (after cutting out the unsatisfactory part).

3. I could erase all music on tape and use the same tape all over again.


These discoveries made me feel very happy and I started my recording session with a wonderful feeling of relaxation. Playback, re-recording, erasing—these were the magic words which made me feel at ease. Now any mistakes could be eliminated without repeating endless stretches of music. Now I could check and recheck sound and balance on tape before I actually started recording.

I began rehearsing the orchestra while my sound engineer fixed microphone positions, checked the sound picture and then started the tape machine for a try-out. After he had recorded a few loud and soft spots of the music "to set the level" he called me for listening. Now when you listen to a tape playback with the thought in the back of your mind that thousands of people will eventually listen to that recording, there are so many things you want to watch for that you wonder if you can keep track of them all. Here are the most important ones: 1. mistakes in the music, 2. interpretation, 3. quality of sound, 4. true instrumental color, 5. instrumental balance and definition, 6. balance of dynamics, and 7. extraneous noises.

I listened and then listened again, asking for two or three playbacks of the tape. (It is almost impossible to be aware of all defects in one playing.) This is what I discovered. My woodwinds, especially the flutes, sounded too distant. My strings had a piercing quality, not quite true to their natural color. Chairs of some players squeaked. There was too much of a hall echo and my brass section was poorly defined, sounding muddled and not crisp. All this and more I heard crystal clear on the tape as it was played back to me with brutal realism.

Then all faults were corrected—partly by moving microphones, partly by adjusting the positions of some of the players. Then the same procedure was repeated. I recorded another small portion of music—listened again, adjusted again, until I was satisfied.

And now I was ready to record one movement of the symphony. I started out with the second movement of Beethoven's "Fifth." Why the second movement? I was in the mood for it—that is the best guarantee of a good performance. After I had completed the movement, I doubled my listening efforts during the playback and found only one poorly blended woodwind passage. There was also one short click which I had caused with my baton while conducting. The click was short enough so that it could be cut out of the tape without damaging the music. (To cut out



THE medium of tape has brought about a revolution in the recording industry. The cry of a baby, a birthday message, a business letter, a patient's heart beat, speeches, radio shows, symphonies (live or pre-recorded) all are being reproduced on tape. But this type of reproduction is like "photography" of sound. It is the closest image of the original source of sound yet achieved. Apart from its value from the standpoint of fidelity and "presence," tape has set a spectacular new standard of artistic performance. How could such a result be achieved by the application of this new medium?

Many musicians, familiar with present-day recording techniques and the use of magnetic tape, remember well the days when recording a piece of music meant the cutting of a master record on wax or acetate. There was no possibility of eliminating mistakes except by cutting a new master. What difference today for a singer, instrumentalist or conductor!

When I conducted my first symphony on tape, the most exciting moment was when I made what I considered to be three amazing discoveries:

1. I could immediately play back the music I had just recorded on tape, and could listen to it any number of times. I could start the tape anywhere—stop it anywhere.
2. I could cut the tape and splice it together. That meant that I could re-record any small portion of music of which I did not approve. I could then splice the re-

longer pieces of tape would interrupt the musical flow.) As to the faulty woodwind passage, I looked for some favorable cutting point in the music (usually a rest or some kind of a break), at which the defective bars could be cut out of the tape without damaging the musical texture. (See illustration.)

This was done and the tape was cut at the points indicated on the illustration. Then I re-recorded a short part of the music, cut out the woodwind passage in question and spliced it into the original tape. The splicing had to be done at the exact spots in the music where the bad version was cut out. Now the operation was finished and one movement was recorded.

The cutting and splicing operation is called "editing." Endless situations demonstrate the possibilities where in the musical score cuts can be made and where they cannot. Often artistic considerations rule out certain cuts and splices although they may be technically possible. A musical phrase, for instance, should not be cut off in the middle (even if technically possible), as the melodic or dynamic balance might suffer. Rather should the whole phrase or more be re-recorded.

There are certain hazards in connection with the new tape-editing procedures: the danger of becoming too technical; the possibility of becoming super-sensitive; the temptation to re-record too many sections, so that the great line of interpretation as a whole will be lost. In my experience, as musical director of many recording sessions, such artists as Vittorio Gui, the late Fritz Busch and Albert Spalding, have always preferred a better interpretation to minor instrumental or technical improvements. Sometimes they have even refused to conduct a "retake" (re-recording) because they succeeded in achieving the artistic interpretation they wanted and would not sacrifice it for a minor imperfection. Sometimes it happens that the constant dealing with tape makes an artist hypercritical. He might thus erase an excellent portion of music for some minor defect and not be able to re-record it musically with the same vigor and intensity. Therefore, all retakes must be kept for final selection until all editing has been done. The selecting must be done with careful consideration from artistic and technical viewpoints. After completion of the master tape the rejected versions can be erased.

A sensitive editing job which received wide newspaper publicity was performed at a recent recording session. The famous Wagnerian soprano, Kirsten Flagstad, was not satisfied with her high "c" during one of her recording sessions and promptly invited her famous colleague Elizabeth Schwarzkopf to substitute her high "c". The "borrowed" "c" was spliced into Miss Flagstad's tape.

There is no doubt that tape has set new artistic standards of performance. The medium is so flexible that, if used wisely, it permits the artist to correct his performance continuously during the session. Repeated listening to the playback toughens his self-criticism, and in consequence his artistic demands increase amazingly.

The record industry today has given proof of its plans to promote tape recordings for home consumption. A number of firms are taking the lead in this new endeavor. They have already released binaural tape and binaural playbacks (with two loudspeakers for playback). This means that concert hall fidelity will come into the average home, and at a reasonable price. The near future will demonstrate a steady continuance of this development, which would be



When it is necessary to re-record part of a composition it is only necessary to record the faulty part, not the whole piece as was done in disc days. The score is marked as shown for the conductor's guidance.

a revolutionary conversion similar to the appearance of the LP not so long ago.

The most stunning experience in this field, however, is binaural reproduction on tape—the equivalent in sound of the 3-D motion picture. I remember a scene during a recent recording appointment at the famous Teatro Comunale in Florence, Italy. I had just supervised a series of sessions with the Florence May Festival Orchestra under Vittorio Gui, and was busy, one evening, editing tapes in a small room of the Teatro Comunale. Vittorio Gui was conducting a concert in the big auditorium. During the intermission I was called up by two unexpected and prominent visitors from Vienna. They were the chief of Vienna's largest radio station and his wife, Prof. and Mrs. Heinrich Kralik, who happened to be passing through Florence. Prof. Kralik, who is one of Vienna's leading music personalities, dean of critics, bearer of the Mozart Medal of the City of Vienna, could be called, "the man most exposed to tape recordings in the country of Austria." I therefore immediately took advantage of this splendid opportunity to expose this authority to my just-completed binaural tapes. The reaction was more than I ever had expected. Since my loudspeakers had already been dismantled I offered my earphones to Prof. and Mrs. Kralik. After they had heard the first bars of the Tannhaeuser Overture, an actual battle took place between the couple who tried to snatch the earphones from each other. The new sound experience was such a sensation to them that they jumped around like children, acting as if they had never heard the Tannhaeuser overture before. No further triumph was necessary for me.

If these highly sophisticated people could react so enthusiastically it was sufficient proof that binaural tape recording is here to stay. For the benefit of the "earphones only" fans of the binaural *avant garde* I would like to say that I found that two correctly placed loudspeakers produced the same reactions as with the earphones. It is not a question of earphones vs. loudspeakers—it is the binaurally recorded tape which creates the sensation. What is the mystery of it? Photography of sound in space. When does it come? It *has* come.—It has come, along with new tape-recording techniques and with hitherto unheard-of standards in musical performance.