NOTES ON THE ENGINEERING

These records have been produced with the utmost care, and by the application of the most modern engineering procedures. The process began with the selection of the best available originals. Most of the recordings in this album were picked up from mint condition 78 rpm discs: they were borrowed from the archives of a number of collectors. If it happened that a collector had a dozen copies of a particular selection, all apparently in equally good condition, all of them were listened to, and the best was picked. Contrarily, some of the rarer records were hard to find in any condition whatever. A coast-to-coast search for Clarence Williams' Cake *Walking* Babies from Home turned up no disc in good enough condition to record from it. At the last moment a Wall Street broker who collects only classic jazz recorded up to 1925 came through with a superb example of this record.

Once all the original recordings were in hand, a sound engineer began the process of transferring the performances to tape. Before playing the old records, he selected from an array of styluses the one that most nearly matched the width of the grooves on that particular 78—groove widths varied considerably in the early days of record making, and the better the fit the more accurate the sound transference. He also carefully adjusted the weight of his tone arm—too light and the stylus might skip; too heavy and it might cause wear on the record and add more noise and distortion to the tape.

As the stylus traveled along the groove, it was monitored by a machine that detects the cleaner side of the groove. If there was a microscopic speck of dirt in the groove that might add an ugly click to the tape, the machine spotted it and blocked out the noisy side of the groove; only the clean side was recorded.

The sound then traveled through a series of filters that eliminated other unwanted noises before they could be captured on the tape. To screen out some noises, the engineer determined the frequencies of the unwanted sounds and set his filters to those frequencies. The filters then swept away the bothersome flaws. However, almost all recordings made before the days of high fidelity have considerable surface noise. Not all of this sound could be filtered from these recordings because some of the sounds the engineer wanted to retain were on the same frequencies as sounds he wanted to eliminate; to the filter, the swish of a drummer's wire brush on a cymbal sounds much the same as an annoying surface hiss. As a consequence the engineer had to keep listening throughout the process to make sure desirable sounds were not filtered out.

After the engineer had filtered and refiltered the tape until the sound was as pure as it could he made without losing any of its essentials, there were still a few ticks left that the filters could not catch. At that point the engineer resorted to surgery, actually snipping out the minute segment of tape that contained the split-second tick. In some instances it was found that this cutting created a slight hiatus in the music. In such cases the engineer put the missing segment hack in, tick and all.

Finally the engineer balanced his sound, curbing or enhancing high and low frequencies until all the sounds blended in perfect proportion. The limitations of early recording equipment introduced noise along with the higher frequency sounds. On some LP reissues the higher frequencies are sacrificed to reduce this noise—which, among other things, causes bass tones to sound stronger than they actually are. That procedure was not followed in these recordings. Instead the higher tones have been retained, and the proper balance has been recovered.

When, at the end of the process, the music on the finished tape was transferred to discs. eight-track cartridges and cassettes, the resulting sound was as near to the original performance as human ingenuity could achieve.

—The Editors