The Motown Reverberation Chamber

What is Reverberation?
When a sound wave comes into contact with a surface (such as a wall), some of its energy is absorbed, while the rest is reflected. The reflected sound continues to "bounce" around the space until all of its energy is absorbed. The cumulative sound of those reflections is called reverberation. The duration and sonic characteristics of the reverberation are most affected by a room's size, shape, and building materials. Every room imparts its own acoustic signature on the input sound. The Motown Reverberation Chamber, in particular, has an interesting signature.

How was the chamber used?
A signal was sent from the recording studio to a speaker located in the reverberation chamber. The sound from that speaker was recorded by a microphone located at the other end of the room. The signal from the microphone was returned to the recording studio (see figure 3, below). This process enabled the musicians to control the amount of reverberation in their music. In most modern recording studios this process is simulated electronically.

Why is reverberation important in recording?
The goal of most early recordings was to simulate a live performance. The large size of most concert halls results in a long reverberation time. The Motown Recording Studio, being much smaller than a concert hall, had to add reverberation artificially by using this chamber. In addition, as the amount of reverberant energy increases, so too does the perceived distance of the sound source. By varying the amount of reverberation on each instrument, the musicians could create the "landscape" of sound which is characteristic of many Motown recordings.