

nal is music. At this point we would like to point out that the distortion processor affects all frequencies equally and is not affected by level. Therefore this test is more revealing than a component that has frequency or level dependent distortion. We have found that with music material, some people can hear 3% distortion on a good system but hardly anyone can detect 1% distortion. However, 10% distortion should be obvious on all but the worst systems.

**TRACK 78.** Same as track 77, except with .1% distortion.

**TRACK 79.** Same as track 77, except with .3% distortion.

**TRACK 80.** Same as track 77, except with 1% distortion.

**TRACK 81.** Same as track 77, except with 3% distortion.

**TRACK 82.** Same as track 77, except with 10% distortion.

**TRACK 83.** This is a musical selection with no added delay and is intended to be a reference for the following track. Much has been said and written about the effect of arrival times on the quality of music reproduction. Many times this error is evaluated along with other errors that make its real importance hard to determine.

**TRACK 84.** This music selection is a demonstration of group delay. The signal was run through an all-pass filter with a total delay at low frequencies of about 7 milliseconds. This would equate to a loudspeaker offset below 100 Hz of nearly 7 feet with respect to the rest of the audio band. This circuit is able to introduce large amounts of delay in the time domain while having virtually no effect in the frequency domain. After you have listened to these two tracks, have someone switch between the two several times without identifying the track. Determine for yourself just how audible time delay