

How to Use the Noise Dosimeter

The Audio Toolbox can be used as a Noise Dosimeter for noise surveys, hearing conservation programs, community noise studies, machinery noise evaluations, and occupational noise analysis. The Noise Dosimeter meets ANSI S1.25-1991 and ASA 98-1991 specifications.

To use the Dosimeter:

- Select the Dose sub-menu.
- Set the Threshold Level. Normally 80dB, any sound below this level will not contribute to the measured dose. You can override this setting if desired. It may not be higher than the Criterion Level.
- Set the Criterion Level. This is the level that will result in a 100% dose reading, if maintained for the entire test. Normally 90dB, may be overridden if desired.
- Set the Averaging Speed. Normally Slow (1 second time constant) is used, may be changed to Fast if desired.
- Set the Criterion Time. This time is normally set to 8 hours, to match the typical workday. All Dose calculations are referenced to this time. May be set from 0.1 hour to 24.0 hours.
- Set the Exchange Rate. This is defined as the number of dB equaling a doubling (or halving) of the Dose. For example, if a 90dB dose for 8 hours equals 100%, with a 5dB exchange rate an 85dB dose for 8 hour would equal a 50% dose. 95dB for 8 hours would equal a 200% dose. This field also displays OSHA, DOD (US Department of Defense), and ISO, when the Exchange Rate specified by those agencies is selected.
- Start the test. Click on Start to begin the test.

As the test is running, the elapsed time is shown on the screen. The fields displayed are:

SPL – Current Sound Pressure Level, using weighting and averaging speed selected.

Leq – Equal-weighted average SPL from start of test. Also referred to as the time-average sound pressure level.

Max – Maximum SPL since beginning of test, using selected weighting and averaging speed.

Dose – Dose accumulated since start of test. For example, running at the Criterion Level for 1/2 of the Test Length would equal a 50% dose.

Pro – Projected Dose. This is defined as the dose that would be reported at the end of the Criterion Time Length, if no more sound above the Threshold was measured.

The Dosimeter results may be stored in a memory, or recalled to examine a previous test.

The ATB Serial Protocol document, available on the TerraSonde web site, explains the format of the stored data.