Note that at f = 1000 *Hz*, L_{app} (Phons) ≡ *SPL* (*dB*). At other frequencies, the graph clearly shows that L_{app} (Phons) ≠ *SPL* (*dB*) …

Sound pressure level (*SPL*) meters have 3 types of sound weighting networks:

A–weighting: the 40 Phon curve of above figure. Units: *dB-A SPL*
B–weighting: the 70 Phon curve of above figure. Units: *dB-B SPL*
C–weighting: flat, independent of frequency. Units: *dB-C SPL*

A device that measures *SPL* is known as a Sound Level Meter - the results of *SPL* measurement by this device can also be weighted by the average frequency response of the human ear. A *SPL* meter utilizes a flat-response pressure microphone, absolutely {NIST} calibrated in its sensitivity. See/show UIUC Physics 406 POM's Extech *SPL* meter…

A *SPL* meter also often has different frequency-dependent weighting schemes, as shown in figure below. *C*-weighting has almost a flat frequency response, whereas *A* (*B*)-weighting has response similar to human ear response at low (high) sound pressure levels of 40 (70) *phons*, respectively.

<u>*A*, *B* and *C*-Weighting Curves *vs.* Frequency</u>: