Decibel (Loudness) Comparison Chart

| Environmental Noise | |
|--|-----------|
| Weakest sound heard | 0dB |
| Whisper Quiet Library | 30dB |
| Normal conversation (3-5') | 60-70dB |
| Telephone dial tone | 80dB |
| City Traffic (inside car) | 85dB |
| Train whistle at 500', Truck Traffic | 90dB |
| Subway train at 200' | 95dB |
| Level at which sustained exposure may result in hearing loss | 90 - 95dB |
| Power mower at 3' | 107dB |
| Snowmobile, Motorcycle | 100dB |
| Power saw at 3' | 110dB |
| Sandblasting, Loud Rock Concert | 115dB |
| Pain begins | 125dB |
| Pneumatic riveter at 4' | 125dB |
| Even short term exposure can cause permanent damage - Loudest recommended exposure WITH hearing protection | 140dB |
| Jet engine at 100', Gun Blast | 140dB |
| Death of hearing tissue | 180dB |
| Loudest sound possible | 194dB |

| OSHA Daily Permissible Noise Level Exposure | | |
|---|-------------|--|
| Hours per day | Sound level | |
| 8 | 90dB | |
| 6 | 92dB | |
| 4 | 95dB | |
| 3 | 97dB | |
| 2 | 100dB | |
| 1.5 | 102dB | |
| 1 | 105dB | |
| .5 | 110dB | |
| .25 or less | 115dB | |

| Perceptions of Increases in Decibel Level | |
|---|------|
| Imperceptible Change | 1dB |
| Barely Perceptible Change | 3dB |
| Clearly Noticeable Change | 5dB |
| About Twice as Loud | 10dB |
| About Four Times as Loud | 20dB |

| Sound Levels of Music | |
|---------------------------------|-------------|
| Normal piano practice | 60 -70dB |
| Fortissimo Singer, 3' | 70dB |
| Chamber music, small auditorium | 75 - 85dB |
| Piano Fortissimo | 84 - 103dB |
| Violin | 82 - 92dB |
| Cello | 85 -111dB |
| Oboe | 95-112dB |
| Flute | 92 -103dB |
| Piccolo | 90 -106dB |
| Clarinet | 85 - 114dB |
| French horn | 90 - 106dB |
| Trombone | 85 - 114dB |
| Tympani & bass drum | 106dB |
| Walkman on 5/10 | 94dB |
| Symphonic music peak | 120 - 137dB |
| Amplifier rock, 4-6' | 120dB |
| Rock music peak | 150dB |

NOTES:

- One-third of the total power of a 75-piece orchestra comes from the bass drum.
- High frequency sounds of 2-4,000 Hz are the most damaging. The uppermost octave of the piccolo is 2,048-4,096 Hz.
- Aging causes gradual hearing loss, mostly in the high frequencies.
- Speech reception is not seriously impaired until there is about 30 dB loss; by that time severe damage may have occurred.
- Hypertension and various psychological difficulties can be related to noise exposure.
- The incidence of hearing loss in classical musicians has been estimated at 4-43%, in rock musicians 13-30%.

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Statistics for the Decibel (Loudness) Comparison Chart were taken from a study by Marshall Chasin , M.Sc., Aud(C), FAAA, Centre for Human Performance & Health, Ontario, Canada. There were some conflicting

readings and, in many cases, authors did not specify at what distance the readings were taken or what the

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