

Audiometer and Test Environment



Occupational Hearing Conservation

Background Noise Levels in Test Room

- Have room certified to meet requirements
 - Keep documentation
- OSHA requirements

TABLE D-1—MAXIMUM ALLOWABLE OCTAVE-BAND SOUND PRESSURE LEVELS FOR AUDIOMETRIC TEST ROOMS

Octave-band center frequency (Hz)	500	1000	2000	4000	8000
Sound pressure level (dB)	40	40	47	57	62

Background Noise Limits

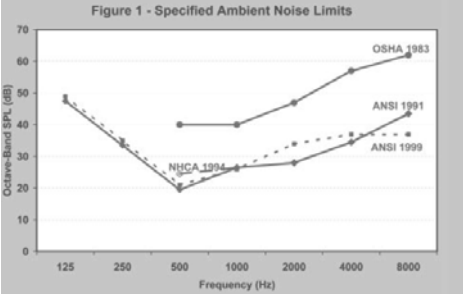


Figure 1 - Specified Ambient Noise Limits

Frequency (Hz)	OSHA 1983 (dB)	ANSI 1991 (dB)	ANSI 1999 (dB)
125	50	50	50
250	35	35	35
500	20	20	20
1000	40	25	25
2000	47	30	30
4000	57	35	35
8000	62	40	40

Background Noise

- Recertify test room whenever acoustic conditions change
- If test location changes every day, continuous monitoring or daily monitoring may be necessary
 - Don't test if noise is too high
 - Pause test if noise is high briefly

Background Noise

- High noise causes elevated low frequency thresholds
 - 500 & 1000 Hz
- High noise is distracting to person being tested

Daily Functional Check

- Observing and listening to verify normal function
- Checklist
 - Frequency
 - Level
 - Cords & connections
 - Presentation switch
 - Right / Left
 - Headband tension
 - Cushions
 - Response button
- If something doesn't work, don't use it to test until it's fixed

Daily Biological Check



- Have baseline thresholds of known stable values
 - Real person, or
 - Bio-acoustic simulator
- Check daily thresholds compare to baseline
 - If thresholds deviate by 10 dB or more, calibrate

Calibration

- ★ Annual acoustic calibration
 - Verify if calibration is within tolerances
 - Note any correction values
- Exhaustive calibration every 2 years
 - Adjust calibration to specifications
- Most service providers do exhaustive every year

Acoustic Calibration

- Good idea if you are moving audiometer around often



Exhaustive Calibration

- OSHA requires bi-annual
 - Most service providers recommend annual



Audiometer

- Don't exchange ear phones without recalibration
- Replace ear phone cushions when they deteriorate
- Replace headband when tension drops or phones slide too easily
- Replace cords when damaged or plugs are loose
