Audiometric Test Booth Certification Form

General Medical: 500A, Public Health Data

APHC

Print Form

Audiometric Test Booth Certification Form

Command Owning Booth: _____ Date: _____

☐ Stationary Booth ☐ Portable Booth ☐ MOHV Booth

Booth Location (Bldg/Rm/Space): _____ Single/Double Wall: _____

Booth Manufacturer: _____ Serial/Prop #: _____

Booth Lights (On/Off): _____ Booth Fan (On/Off): _____

Types of Audiometric Testing Conducted in Booth	Octave Band Center Frequency (Hz) *Max SPL allowed (dB)							**Certified to conduct this type of audiometric testing (Yes/No)
	125	250	500	1000	2000	4000	8000	
Medical Surveillance Testing (Ears Covered) - AHP (DD2215/16), physical exams, PHA's, etc	N/A	N/A	27	29	34	39	41	
Diagnostic Audiology Testing (Ears Covered) - Headphones	39	25	21	26	34	37	37	
Diagnostic Audiology Testing (Ears Not Covered) - Sound field testing or bone conduction testing	35	21	16	13	14	11	14	
SPL Measured Inside Booth (dB)								

SPL Measured Outside the Booth (Info Only): (dBA): _____ (dBC) : _____

Field Pre-Calibration (Ref dB/Measured dB): _____/_____ ☐ PASS ☐ FAIL
Field Post-Calibration (Ref dB/Measured dB) : _____/_____ ☐ PASS ☐ FAIL

EQUIPMENT DATA	Manufacturer	Model #	Serial #	Cal Date
SLM				
Microphone				
Octave Band Filter				
Calibrator				

Comments/Notes:

Certifier Name (Print) Signature Command Phone

*Max permissible ambient noise level (MPANL) criteria for diagnostic audiology testing from 250 Hz to 8000 Hz per ANSI S3.1, 1999 (R2008) and DODI 6055.12 (03 Dec 2010) for medical surveillance testing.
**Any significant new noise (inside or outside the booth) or relocation of the booth requires recertification.

Basic Procedures for Audiometric Booth Certification for Testing Thresholds Down to 0 dB HL

Background Information

- All audiometric booths require, at a minimum, annual certification.
- Coordination with an Audiologist is critical to clearly identify what type(s) of audiometric testing is conducted in the booth, as there are three distinct approval criteria depending on booth purpose.

Procedures

- At a minimum, a Type I sound level meter (SLM) with octave band filter/analyzer (OBA) is required. The SLM, OBA and microphone must be capable of measuring at least 3 dB below the applicable criteria "Max SPL" values listed in the table on the certification form. Check the meter specifications. The most common SLM, OBA and microphone ensemble will not meet the stringent criterion for "Diagnostic Audiology Testing, Ears Not Covered (sound field & bone conduction testing). The SLM, OBA, microphone, and calibrator must each have been professionally calibrated within one year.
- Obtain measurements inside the booth under normal operational conditions during activity levels that are representative of anticipated use conditions, including internal conditions (lights and ventilation turned on).
- Record the sound pressure level at 125 Hertz (Hz) and above if the clinician normally tests at 250 Hz and above and record at 500 Hz and above otherwise.
- Perform pre- and post-measurement field calibrations of the sound level meter.
- Obtain octave band readings in the "Linear" or "All Pass" setting, slow response mode. Significant errors occur if the "A" weighting network is engaged.
- Sit in the patient's chair with sound level meter held away from your body at head height or
  - Set up a tripod at this location and permit measurement without your presence in the booth. This method will eliminate data contamination from deep breathing or other body and clothing sounds while taking measurements.
- Select the desired octave band, dial in slow response, and take the reading. Record results for each required octave band.
- For multiple station booths, check levels at seats closest and furthest from the door, and record the higher values.
- Have someone talk outside the booth to see if the booth meets certification under that condition. If external conversation precludes valid testing, annotate this on the certification form.
- Record all values, and document all equipment data on the form. Sign, date, and post the certification on the exterior of the booth or on an adjacent wall. Retain a file copy.
- For Mobile Occupational Health Vehicle (MOHV) booths conduct the above certification procedure at the location most often used. Realistic external noise/activity should be in effect for an accurate and meaningful certification.
  - It is impractical to re-certify mobile booths each time they are moved to a different location, however, readings may be taken at each of the primary customer locations.
  - Occasional cross-traffic, generators, flyovers, etc., all have the potential to invalidate test results. Some alternatives to ensure test validity:
    - Conduct/document booth certification at each prospective test location under worst case conditions
    - Do a test audiogram (on a normal listener) at each location prior to beginning patient care
- Any significant new noise (inside or outside of the booth) or relocation of the booth requires recertification.

Troubleshooting Booths Not Meeting Certification Requirements

- If low frequencies (500 Hz or below) fail certification, re-check ambient levels with the fan turned off. If fan noise is determined to be the problem, then initiate fan repair or replacement.
- Electrical lighting may be a source for low frequency noise in the form of 60-cycle hum, with harmonics migrating into the 500 Hz test range. Initiate repair or replacement if needed.
- Leaks may occur around the jack panel. Sound attenuating material should be carefully packed around the wiring to seal the opening. Contact Biomedical Repair staff to conduct continuity checks and clean/replace jacks and plugs as needed.
- Door seal problems may occur due to hardened or worn out foam seals. These must be replaced. The door may also be hung improperly.
- If the above actions do not solve the problem, consider removing/relocating external noise sources, relocating the booth, adding isolators, or obtaining replacement.
- Evaluate external noise sources for their contributions to the problem and remediate accordingly.