THE ENCLOSURES FOR AUDIOMETER HEADPHONES WITH EXCEPTIONAL NOISE-EXCLUDING PROPERTIES

amplivox
AUDIOCUPS

BETTER RESULTS IN QUIET CONDITIONS, ESSENTIAL WHERE THERE IS NOISE

amplivox ltd
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FEATURES

Unique noise-excluding enclosures for standard audiometer headphones
(World patents pending)

- Permit accurate pure tone audiometry in conditions of ambient noise too high for unshielded earphones.
- Can be fitted easily to any audiometer earphone using standard TDH 39 inserts.
- Complete freedom from threshold shift – no change in audiometer calibration at time of fitting.
- Subsequent periodic recalibration can be effected on standard ISO 6cc coupler without removal of inserts from Audiocups.
- Invaluable where a silent cabin or sound-proof room is not available.
- Give extra attenuation when a booth *is* available.

DESCRIPTION

To utilize the full accuracy of an audiometer, threshold measurements must be made in quiet conditions. When a booth is not available or is impracticable, noise-excluding earphone shells, which completely enclose the outer ear, are obviously desirable. These have not been available in the past without the introduction of unwanted changes in calibration levels.

Audiocups are unique in this respect, having been designed to eliminate threshold shift, with a full articulated suspension system which leaves the standard MX41/AR earcaps free to locate against the pinna with normal pressure and, at the same time, to enclose fully the external ears with noise-excluding shells, sealed with soft plastic cushions, to exclude background noise which will otherwise result in elevated threshold measurements.

The design permits easy fitting of standard TDH 39 earphone inserts, using the existing cable and plugs, and provides a recessed space on the outer shell on which the identifying serial number can be written. (It will be appreciated that audiometer earphones are not interchangeable and must remain identified with a specific instrument to preserve its calibration.)

The attenuation provided (of the complete assembly including TDH 39 inserts with MX41/AR earcaps) is as follows:

Frequency Hz	Attenuation dB	Standard Deviation dB
125	9	6
250	13	6
500	24	8
1000	30	8
1500	32	7
2000	39	7
3000	44	5
4000	44	8
6000	44	10
8000	35	7

Threshold levels obtained with Audiocups fitted were compared with levels obtained with standard audiometer headphones, by subjective measurements on 20 ears, measured once. Results show that the threshold shift with Audiocups is within ± 5 dB at *all* frequencies. (In fact, all but 1500 Hz and 8000 Hz, the threshold shift was measured as 0 dB.) For practical purposes, therefore, using an audiometer with a 5 dB step attenuator, the threshold shift can be taken as 0 dB for *all* frequencies.

This freedom from threshold shift in Audiocups represents a very significant advance compared with previously available noise-attenuating enclosures, which have often exhibited very large values of shift, particularly at the extremes of the audiometer frequency range.

It is also important to note that audiometer recalibration using a standard ISO 6cc coupler can be effected without having to remove the inserts from the Audiocups. This ability to calibrate as a complete assembly again represents a significant advance over shells previously available, where calibration within the earshells was often quite impossible.

Because audiometry is too often practised in far-from-ideal conditions, Audiocups can usefully be specified with the majority of audiometers ordered, particularly for school screening and similar peripatetic applications, for hospitals, clinics, hearing aid departments, private practice and industry, especially where a booth is not available. Where a booth *is* available, Audiocups will provide valuable supplementary attenuation and further assist the subject's concentration.

Audiocups can also be useful in the speech training of children in some difficult cases, by eliminating feedback problems at high levels, when slight extra weight is acceptable.
N.B. Audiocups cannot be fitted to headsets with boom microphones or to lightweight headphones.