BS EN 60318-3:2015

BSI Standards Publication

Electroacoustics — Simulators of human head and ear

Part 3: Acoustic coupler for the calibration of supra-aural earphones used in audiometry

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National foreword

This British Standard is the UK implementation of EN 60318-3:2015. It is identical to IEC 60318-3:2014. It supersedes BS EN 60318-3:1998 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/29, Electroacoustics.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Electroacoustics - Simulators of human head and ear - Part 3: Acoustic coupler for the calibration of supra-aural earphones used in audiometry (IEC 60318-3:2014)

Électroacoustique - Simulateurs de tête et d'oreille humaines - Partie 3: Coupleur acoustique pour l'étalonnage des écouteurs supra-auraux utilisés en audiométrie (IEC 60318-3:2014)

Akustik - Simulatoren des menschlichen Kopfes und Ohres - Teil 3: Akustischer Kuppler zur Kalibrierung von supra-auralen Audiometrie-Kopfhörern (IEC 60318-3:2014)

European Committee for Electrotechnical Standardization
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Foreword

The text of document 29/796/CDV, future edition 2 of IEC 60318-3, prepared by IEC TC 29, Electroacoustics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60318-3:2015.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2015-10-15
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-01-15

This document supersedes EN 60318-3:1998.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60318-3:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 61094-4	NOTE	Harmonised as EN 61094-4.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 61094-1	-	Measurement microphones - Part 1: Specifications for laboratory standard microphones	EN 61094-1	-
ISO/IEC Guide 98-3	-	Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)	-	-

CONTENTS

ELECTROACOUSTICS – SIMULATORS OF HUMAN HEAD AND EAR –

Part 3: Acoustic coupler for the calibration of supra-aural earphones used in audiometry

1 Scope

This part of IEC 60318 specifies an acoustic coupler for the measurement of supra-aural audiometric earphones in the frequency range from 125 Hz to 8 000 Hz.

The sound pressure developed by an earphone is not, in general, the same in the coupler as in a person's ear. However, the acoustic coupler can be used as an objective and reproducible means of measuring the output of supra-aural earphones. It can be used for specifying reference equivalent threshold sound pressure levels (RETSPL) for the calibration of audiometers.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61094-1, *Measurement microphones – Part 1: Specifications for laboratory standard microphones*

ISO/IEC Guide 98-3, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

3 Terms and definitions

For the purpose of this document, the following definition applies:

3.1
acoustic coupler
device for measuring the acoustic output of sound sources where the sound pressure is measured by a calibrated microphone coupled to the source by a cavity of predetermined shape and volume which does not necessarily approximate the acoustical impedance of the normal human ear

4 Construction

4.1 General

The coupler consists essentially of a cylindrical cavity whose acoustic transfer impedance is determined by the volume of air in the cavity and its dimensions (see 4.2). A microphone with a diaphragm having high acoustic impedance is located in the base of the cylindrical cavity.

The coupler shall be made of a material that has no negative influences on its performance. For example it should be acoustically hard and dimensionally stable. The general construction