**BS EN 61094-8:2012**

*Incorporating corrigendum May 2013*

BSI Standards Publication

# Electroacoustics — Measurement microphones

## Part 8: Methods for determining the free-field sensitivity of working standard microphones by comparison



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## National foreword

This British Standard is the UK implementation of EN 61094-8:2012 incorporating corrigendum 2013. It is identical to IEC 61094-8:2012.

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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**Compliance with a British Standard cannot confer immunity from legal obligations.**

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| 31 May 2013 | Implementation of CENELEC corrigendum January 2013: Standard title corrected |

EUROPEAN STANDARD

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# EN 61094-8

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English version

# Electroacoustics - Measurement microphones - Part 8: Methods for determining the free-field sensitivity of working standard microphones by comparison

(IEC 61094-8:2012)

Electroacoustique - Microphones de mesure - Partie 8: Méthodes pour la détermination de l'efficacité en champ libre par comparaison des microphones étalons de travail
(CEI 61094-8:2012)

Elektroakustik - Messmikrofone - Teil 8: Verfahren zur Ermittlung des Freifeld-Übertragungskoeffizienten von Gebrauchs-Normalmikrofonen nach der Vergleichsmethode
(IEC 61094-8:2012)



CENELEC

European Committee for Electrotechnical Standardization
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Europäisches Komitee für Elektrotechnische Normung

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## Foreword

The text of document 29/752/CDV, future edition 1 of IEC 61094-8, prepared by IEC/TC 29 "IEC TC 29, Electroacoustics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61094-8:2012.

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) | 2013-07-24 |
| • latest date by which the national standards conflicting with the document have to be withdrawn | (dow) | 2015-10-24 |

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## Endorsement notice

The text of the International Standard IEC 61094-8:2012 was approved by CENELEC as a European Standard without any modification.

# 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 61094-1 | - | Measurement microphones - Part 1: Specifications for laboratory standard microphones | EN 61094-1 | - |
| IEC 61094-2 | - | Electroacoustics - Measurement microphones - Part 2: Primary method for the pressure calibration of laboratory standard microphones by the reciprocity technique | EN 61094-2 | - |
| IEC 61094-3 | - | Measurement microphones - Part 3: Primary method for free-field calibration of laboratory standard microphones by the reciprocity technique | EN 61094-3 | - |
| IEC 61094-4 | - | Measurement microphones - Part 4: Specifications for working standard microphones | EN 61094-4 | - |
| IEC 61094-5 | - | Measurement microphones - Part 5: Methods for pressure calibration of working standard microphones by comparison | EN 61094-5 | - |
| IEC 61094-6 | - | Measurement microphones - Part 6: Electrostatic actuators for determination of frequency response | EN 61094-6 | - |
| IEC/TS 61094-7 | - | Measurement microphones - Part 7: Values for the difference between free-field and pressure sensitivity levels of laboratory standard microphones | - | - |
| ISO/IEC Guide 98-3 | - | Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995) | - | - |
| ISO 26101 | - | Acoustics - Test methods for the qualification of free-field environments | - | - |

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# MEASUREMENT MICROPHONES –

# Part 8: Methods for determining the free-field sensitivity of working standard microphones by comparison

## 1 Scope

This part of the IEC 61094 series is applicable to working standard microphones meeting the requirements of IEC 61094-4. It describes methods of determining the free-field sensitivity by comparison with a laboratory standard microphone or working standard microphone (where applicable) that has been calibrated according to either:

– IEC 61094-3,

– IEC 61094-2 or IEC 61094-5, and where factors given in IEC/TS 61094-7 have been applied,

– IEC 61094-6,

– this part of IEC 61094.

Methods performed in an acoustical environment that is a good approximation to an ideal free-field (e.g. a high quality free-field chamber), and methods that use post processing of results to minimise the effect of imperfections in the acoustical environment, to simulate free-field conditions, are both covered by this part of IEC 61094. Comparison methods based on the principles described in IEC 61094-3 are also possible but beyond the scope of this part of IEC 61094.

NOTE 1 This part of IEC 61094 is also applicable to laboratory standard microphones meeting the requirements of IEC 61094-1, noting that these microphones also meet the electroacoustic specifications for working standard microphones.

NOTE 2 This part of IEC 61094 is also applicable to combinations of microphone and preamplifier where the determined sensitivity is referred to the unloaded output voltage of the preamplifier.

NOTE 3 Other devices, for example, sound level meters can be calibrated using the principles of this part of IEC 61094, but are not within the scope of this standard.

## 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*

IEC 61094-2, *Electroacoustics – Measurement microphones – Part 2: Primary method for pressure calibration of laboratory standard microphones by the reciprocity technique*

IEC 61094-3, *Measurement microphones – Part 3: Primary method for free-field calibration of laboratory standard microphones by the reciprocity technique*

IEC 61094-4, *Measurement microphones – Part 4: Specifications for working standard microphones*