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Standards

Irish Standard
I.S. EN 62777:2016

Quality evaluation method for the sound field of directional loudspeaker array system

I.S. EN 62777:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 62777:2016 is the adopted Irish version of the European Document EN 62777:2016, Quality evaluation method for the sound field of directional loudspeaker array system

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EUROPEAN STANDARD

EN 62777

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2016

ICS 33.160.50

English Version

**Quality evaluation method for the sound field of directional
loudspeaker array system
(IEC 62777:2016)**

Méthode d'évaluation de la qualité du champ acoustique
d'un système de haut-parleurs directionnels
(IEC 62777:2016)

Methode zur Ermittlung der Qualität des Schallfeldes von
Systemen aus Richtlautsprechergruppen
(IEC 62777:2016)

This European Standard was approved by CENELEC on 2016-03-16. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 62777:2016

European foreword

The text of document 100/2603/FDIS, future edition 1 of IEC 62777, prepared by Technical Area 11 "Quality for audio, video and multimedia systems", of IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62777:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at (dop) 2016-12-16
national level by publication of an identical national
standard or by endorsement
- latest date by which the national standards conflicting with (dow) 2019-03-16
the document have to be withdrawn

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC ISO 3743-1	NOTE	Harmonized as EN ISO 3743-1.
IEC ISO 3743-2	NOTE	Harmonized as EN ISO 3743-2.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60268-1	-	Sound system equipment - Part 1: General	HD 483.1 S2	-
IEC 60268-2	-	Sound system equipment - Part 2: Explanation of general terms and calculation methods	HD 483.2 S2	-
IEC 60268-5	-	Sound system equipment - Part 5: Loudspeakers	EN 60268-5	-
IEC 61672-1	-	Electroacoustics - Sound level meters - Part 1: Specifications	EN 61672-1	-

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Edition 1.0 2016-02

INTERNATIONAL STANDARD

Quality evaluation method for the sound field of directional loudspeaker array systems





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INTERNATIONAL STANDARD

Quality evaluation method for the sound field of directional loudspeaker array systems

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.160.50

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**QUALITY EVALUATION METHOD FOR THE SOUND FIELD
OF DIRECTIONAL LOUDSPEAKER ARRAY SYSTEMS**

FOREWORD

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International Standard IEC 62777 has been prepared by subcommittee technical area 11: Quality for audio, video and multimedia systems, of IEC technical committee technical committee 100: Audio, video and multimedia systems and equipment.

The text of this standard is based on the following documents:

FDIS	Report on voting
100/2603/FDIS	100/2637/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

Directional loudspeaker array systems provide focused sound for a person to listen alone without disturbing others. This system is convenient for consumers who want to listen to sound without earphones or headphones.

This system would be widely used in consumer electronics, for example, smart phone or pad, TV, computer, navigator, and game machine. The applicable area for the system could be fitness club, exhibition room, museum, shopping mall, and etc. A simple and easy concept is needed to evaluate the performance of the directional loudspeaker array system for a consumer. It will provide consumers with personalized audio space criteria in order to compare the audio sound field quality between various electronic products that have a directional loudspeaker array system. It is important to specify the quality evaluation method for the personal audio space and the concept of personal audio space.

This standard provides guidelines for general test methods to evaluate the quality of directional loudspeaker array systems.

QUALITY EVALUATION METHOD FOR THE SOUND FIELD OF DIRECTIONAL LOUDSPEAKER ARRAY SYSTEMS

1 Scope

This International Standard applies to directional loudspeaker array systems of any kind, and to the parts of which they are composed or which are used as auxiliaries in such systems.

This standard deals with the determination of the performance of directional loudspeaker array systems, the comparison of these system types, and the determination of their proper practical application, by listing the characteristics which are useful for their specification. It specifies uniform measurement methods for these characteristics.

This standard is restricted to a description of the audio space around a person and the relevant method of measurement. It does not consider characteristics of loudspeakers, which are specified in IEC 60268-5.

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 60268-1, *Sound system equipment – Part 1: General*

IEC 60268-2, *Sound system equipment – Part 2: Explanation of general terms and calculation methods*

IEC 60268-5, *Sound system equipment – Part 5: Loudspeakers*

IEC 61672-1, *Electroacoustics – Sound level meters – Part 1: Specifications*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

personal acoustic zone

PAZ

acoustic space occupied by a person

3.2

personal distance

distance between listeners and a directional loudspeaker array system

3.3

sound pressure level at a personal acoustic zone

P_{ij}

sound pressure level measured at the center of the surface j of the personal acoustic zone i

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