

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Ultrasonics – Hydrophones –
Part 1: Measurement and characterization of medical ultrasonic fields up
to 40 MHz**

**Ultrasons – Hydrophones –
Partie 1: Mesurage et caractérisation des champs ultrasoniques médicaux
jusqu'à 40 MHz**



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE **XC**
CODE PRIX

ICS 17.140.50

ISBN 978-2-83220-134-3

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ULTRASONICS – HYDROPHONES –

**Part 1: Measurement and characterization of medical
ultrasonic fields up to 40 MHz**

FOREWORD

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International Standard IEC 62127-1 has been prepared by IEC technical committee 87: Ultrasonics.

IEC 62127-1, IEC 62127-2 and IEC 62127-3 are being published simultaneously. Together these cancel and replace IEC 60866:1987, IEC 61101:1991, IEC 61102:1991, IEC 61220:1993 and IEC 62092:2001.

This bilingual version (2012-06) corresponds to the monolingual English version, published in 2007-08.

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

Enquiry draft	Report on voting
87/352/CDV	87/371/RVC

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

The French version of this standard has not been voted upon.

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

A list of all parts of IEC 62127 series, published under the general title *Ultrasonics – Hydrophones*, can be found on the IEC website.

NOTE Words in **bold** in the text are defined in Clause 3.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC website 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- withdrawn;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.

The contents of the corrigendum of August 2008 have been included in this copy.

Withdrawn

INTRODUCTION

The main purpose of this part of IEC 62127 is to define various acoustic parameters that can be used to specify and characterize ultrasonic fields propagating in liquids, and, in particular, water, using hydrophones. Measurement procedures are outlined that may be used to determine these parameters. Specific device related measurement standards, for example IEC 61689, IEC 61157, IEC 61847 or IEC 62359, can refer to this standard for appropriate acoustic parameters.

The philosophy behind this standard is the specification of the acoustic field in terms of acoustic pressure parameters, acoustic pressure being the primary measurement quantity when piezoelectric hydrophones are used to characterize the field. Of course, if other measurement devices come into use in the future, a new standard with additional definitions and procedures will be necessary. Examples of such devices would be thermistors, thermocouples or optical hydrophones.

Intensity parameters are specified in this standard, but these are regarded as derived quantities that are meaningful only under certain assumptions related to the ultrasonic field being measured.

Withdrawn