



**ASA/ANSI S3.2-2020
(Revision of ANSI/ASA S3.2-2009)**

AMERICAN NATIONAL STANDARD

Method for Measuring the Intelligibility of Speech over Communication Systems

Secretariat:

Acoustical Society of America

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American National Standards Institute, Inc.

Abstract

This standard specifies a method for subjectively evaluating the speech intelligibility of communication systems. The standard specifies validated English word lists for performing the tests. The standard also specifies methods for selecting and training the talkers and listeners, for designing, controlling, and reporting the test conditions, and for calculating the intelligibility score, and for analyzing and reporting the test results.

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Foreword

[This Foreword is for information only and is not a part of the American National Standard ANSI/ASA S3.2-2020 American National Standard Method for Measuring the Intelligibility of Speech over Communication Systems. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the standard.]

This standard comprises a part of a group of definitions, standards, and specifications for use in bioacoustics. It was developed and approved by Accredited Standards Committee S3 Bioacoustics, under its approved operating procedures. Those procedures have been accredited by the American National Standards Institute (ANSI). The Scope of Accredited Standards Committee S3 is as follows:

Standards, specifications, methods of measurement and test, and terminology in the fields of psychological and physiological acoustics, including aspects of general acoustics which pertain to biological safety, tolerance and comfort.

This standard is a revision of ANSI S3.2-2009, which has been revised to clarify questions that users have had with respect to applying its methods. Clause 10 was added to provide information about how to compute measurement uncertainty. Two informative appendices were added to provide guidance for the testing of military tactical communications and protection systems (TCAPS) and to provide insight on how to determine the appropriate amount of training for listener participants.

This standard is not comparable to any existing International Standard Organization (ISO) Standard.

At the time this Standard was submitted to Accredited Standards Committee S3, Bioacoustics for approval, the membership was as follows:

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Suggestions for improvements of this standard will be welcomed. They should be sent to Accredited Standards Committee S3, Bioacoustics, in care of the Standards Secretariat of the Acoustical Society of America, 1305 Walt Whitman Road, Suite 300, Melville, New York 11747. Telephone: +1 (516) 576-2341; E-mail: standards@acousticalsociety.org.

American National Standard

Method for Measuring the Intelligibility of Speech over Communication Systems

1 Scope

1.1 Scope

This standard provides methods for the subjective evaluation of speech intelligibility over entire communication systems and the evaluation of the contributions of elements of speech communication systems. The scope also includes the evaluation of the factors that affect the intelligibility of speech.

In this standard the intelligibility of speech over a speech communication system is measured by comparing the monosyllabic words trained listeners receive and identify with the words trained talkers or vocoders speak into a communication system that connects the talkers (or vocoders) with the listeners.

Predictions made using the methods specified by this standard are limited by the degree to which the test conditions, talkers, and listeners are representative of the population to which they are applied. Unless the testing requirements indicate otherwise, both talkers and listeners should be clear speakers of English and have normal hearing.