
Methods of measurement for radio transmitters - Part 8: Performance characteristics of vestigial-sideband demodulators used for testing (IEC 60244-8:1993)

Methods of measurement for radio transmitters -- Part 8: Performance characteristics of vestigial-sideband demodulators used for testing television transmitters and transposers

Meßverfahren für Funksender -- Teil 8: Übertragungseigenschaften von Restseitenband-Demodulatoren zur Prüfung von Fernsehsendern und Umsetzern

Méthodes de mesure applicables aux émetteurs radioélectriques -- Partie 8: Qualité de fonctionnement des démodulateurs à bande latérale résiduelle utilisés pour les essais des émetteurs et réémetteurs de télévision

Ta slovenski standard je istoveten z: EN 60244-8:1994

ICS:

33.060.20	Sprejemna in oddajna oprema	Receiving and transmitting equipment
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EUROPEAN STANDARD

EN 60244-8

NORME EUROPEENNE

EUROPÄISCHE NORM

September 1994

ICS 33.060.20

Descriptors: Radio transmitters, measurement, television,
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Methods of measurement for radio transmitters
Part 8: Performance characteristics of
vestigial-sideband demodulators used for testing
television transmitters and transposers
(IEC 244-8:1993)

Méthodes de mesure applicables
aux émetteurs radioélectriques
Partie 8: Qualité de
fonctionnement des démodulateurs
à bande latérale résiduelle
utilisés pour les essais des
émetteurs et réémetteurs de
télévision
(CEI 244-8:1993)

Meßverfahren für
Funksender
Teil 8: Übertragungs-
eigenschaften von
Restseitenband-Demodulatoren
zur Prüfung von Fernsehsendern
und Umsetzern

(IEC 244-8:1993)

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Up-to-date lists and bibliographical references concerning such national standards
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This European Standard exists in three official versions (English, French, German).
A version in any other language made by translation under the responsibility of
a CENELEC member into its own language and notified to the Central Secretariat
has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium,
Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg,
Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B-1050 Brussels

FOREWORD

The CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 244-8:1993 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as EN 60244-8 on 5 July 1994.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1995-07-15
- latest date of withdrawal of conflicting national standards (dow) 1995-07-15

Annexes designated "normative" are part of the body of the standard. Annexes designated "informative" are given only for information. In this standard, annex A is informative and annex ZA is normative.

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ENDORSEMENT NOTICE

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The text of the International Standard IEC 244-8:1993 was approved by CENELEC as a European Standard without any modification.

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ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

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

IEC Publication	Date	Title	EN/HD	Date
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244-1 A2	1968 1989	Methods of measurement for radio transmitters - Part 1: General conditions of measurement, frequency, output power and power consumption	HD 236.1 S1*	1977
244-5	1992	Part 5: Performance characteristics of television transmitters	EN 60244-5	1994
244-10	1986	Part 10: Methods of measurement for television transmitters and transposers employing insertion test signals	EN 60244-10	1993
244-12-1	1989	Part 12: Guideline for drawing up descriptive leaflets for transmitters and transposers for sound and television broadcasting Characteristics to be specified	EN 60244-12-1	1993
244-12-2	1989	Specification sheets	EN 60244-12-2	1993
487-1	1984	Methods of measurement for equipment used in terrestrial radio-relay systems Part 1: Measurements common to sub-systems and simulated radio-relay systems	HD 477.1 S1	1987
864-1 A1	1986 1987	Standardization of interconnections between broadcasting transmitters or transmitter systems and supervisory equipment - Part 1: Interface standards for systems using dedicated interconnections	HD 577 S1	1990

Other publication:

CCIR Report 404-2:1974 - Distortion of television signals due to the use of vestigial sideband emissions

* HD 236.1 S1 is based on IEC 244-1:1968 + A1:1973 + IEC 244-1A:1968 + A1:1973

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NORME INTERNATIONALE INTERNATIONAL STANDARD

**CEI
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244-8**

Deuxième édition
Second edition
1993-03

Méthodes de mesure applicables aux émetteurs radioélectriques

Partie 8:

Qualité de fonctionnement des démodulateurs
à bande latérale résiduelle utilisés pour les essais
des émetteurs et réémetteurs de télévision

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Methods of measurement for radio transmitters

Part 8:

Performance characteristics of vestigial-sideband
demodulators used for testing television transmitters
and transposers

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

METHODS OF MEASUREMENT
FOR RADIO TRANSMITTERSPart 8: Performance characteristics of vestigial-sideband
demodulators used for testing television transmitters
and transposers

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 3) They have the form of recommendations for international use published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

International Standard IEC 244-8 has been prepared by sub-committee 12C: Transmitting equipment, of IEC technical committee 12: Radiocommunications.

This second edition cancels and replaces the first edition published in 1980 and its amendment 1 (1983) and constitutes a technical revision.

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

DIS	Report on Voting
12C(CO)223	12C(CO)227

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

Annex A is for information only.

INTRODUCTION

International Standard IEC 244-8 is one of a series of parts of IEC 244.

A vestigial-sideband (VSB) demodulator is a measuring instrument for assessing the performance characteristics of television transmitters, for which the method of measurement is described in IEC 244-5. The measuring arrangement and the method of measurement for the VSB demodulator is therefore in most cases identical with that in IEC 244-5, with the understanding that the television transmitter is replaced by a high-quality, double-sideband (DSB) modulator which is capable of delivering test signals suitable for measuring an instrument which is significantly better in performance than a television transmitter. Therefore, for most measurements, reference is made to IEC 244-5. A number of measurements, using radio-frequency generators to simulate vision and sound carriers and sideband signals, are fully described in this standard.

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METHODS OF MEASUREMENT FOR RADIO TRANSMITTERS

Part 8: Performance characteristics of vestigial-sideband demodulators used for testing television transmitters and transposers

1 Scope

This part of IEC 244 is intended to be used for type tests and acceptance or factory tests and may be used to check the characteristics of a demodulator used for measuring television transmitters and transposers. It is not mandatory to measure all the described characteristics.

Additional measurements may be carried out by agreement between customer and manufacturer.

Measuring performance characteristics in accordance with this standard, makes the comparison of the results of measurements, made by different observers, possible. Limit values for acceptable performance are not normally specified, but, in connection with the presentation of measured characteristics, some figures can be given for the sake of clarity.

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2 Normative references

[SIST EN 60244-8:1999](#)

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The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 244. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 244 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 244-1: 1968, *Methods of measurement for radio transmitters – Part 1: General conditions of measurement, frequency, output power and power consumption* (revision under consideration)
Amendment 2, 1989

IEC 244-5: 1992, *Methods of measurement for radio transmitters – Part 5: Performance characteristics of television transmitters*

IEC 244-10: 1986, *Methods of measurement for radiotransmitters. Part 10: Methods of measurement for television transmitters and transposers employing insertion test signals*

IEC 244-12-1: 1989, *Methods of measurement for radio transmitters – Part 12: Guideline for drawing up descriptive leaflets for transmitters and transposers for sound and television broadcasting – Characteristics to be specified*

IEC 244-12-2: 1989, *Methods of measurement for radio transmitters – Part 12: Guideline for drawing up descriptive leaflets for transmitters and transposers for sound and television broadcasting – Specification sheets*

IEC 487-1: 1984, *Methods of measurement for equipment used in terrestrial radio-relay systems – Part 1: Measurements common to sub-systems and simulated radio-relay systems*

IEC 864-1: 1986, *Standardization of interconnections between broadcasting transmitters or transmitter systems and supervisory equipment – Part 1: Interface standards for systems using dedicated interconnections*
Amendment 1, 1987

CCIR Report 404-2: 1974, *Distortion of television signals due to the use of vestigial side-band emissions*

3 General terms and definitions

3.1 Vestigial-sideband demodulator

The term vestigial-sideband demodulator, sometimes referred to as a "Nyquist demodulator", is used in this standard to refer to that equipment with one or more radio-frequency inputs and with one or more demodulated video and audio outputs.

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The demodulator shall include:

- a "zero carrier" reference pulse;
- true synchronous and envelope detection, switchable;
- in the case of synchronous detection, a quadrature video output;
- a switchable "sound trap" and associated group delay correction filter (with the sound trap switched out, the phase/frequency characteristic shall be linear);
- independent (direct) sound demodulation, and intercarrier sound demodulation may be used;
- in the case of multiple sound channels, a suitable demodulator and decoder, and analogue or digital sound outputs depending on the system concerned.

3.2 Description of the television systems and other relevant information

See annex A of IEC 244-5.

3.3 Definitions relating to the demodulator output and input signals

3.3.1 Output voltage

The peak-to-peak voltage of the video output signal.